

# Route 96 Corridor Management Study

## TECHNICAL REPORT #1

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## 1.0 INTRODUCTION

### 1.1. Project Purpose

The purpose of the Route 96 Corridor Management Study is to help the Town of Ulysses, Town of Ithaca, City of Ithaca, Tompkins County, the Ithaca-Tompkins County Transportation Council, and the Tompkins Consolidated Area Transit define an appropriate approach to manage anticipated growth along the Route 96 corridor from the southern boundary of the Village of Trumansburg to the intersection of Route 96 and Route 13 in the City of Ithaca. The Study is being guided by a Technical Review Committee consisting of representatives from each of the aforementioned communities and organizations.

The study seeks to serve as a guide to define a preferred development pattern for the corridor that is consistent with the goals and vision for each of the involved communities. The study will recommend strategies to reduce anticipated traffic-related impacts that may be caused by new development. The Town of Ulysses, Town of Ithaca and City of Ithaca are looking to update their comprehensive plans and have identified the need to analyze this corridor for housing and business opportunities as well as to mitigate potential associated increases in traffic.

The Route 96 Corridor Management Study looks at the impacts of nodal development patterns versus a sprawling development pattern with a focus on access management issues, improving transit services, incorporating transportation system improvements, and enhancing the overall aesthetic character of the corridor. The final product will recommend a pattern for future growth that protects livability within the study area through sound land use and transportation management practices.

The Corridor Management Study is being developed as a series of four written Technical Reports, as summarized below:

- Technical Report #1 focuses on Existing Conditions within the study area and lays the framework for later projections, analysis, and recommendations. Technical Report #1 provides a baseline of information relevant to the corridor from which to learn from, and build on.
- Technical Report #2 is the analysis and considerations component of the overall study and is sub-divided into three main components: traffic projections, traffic impact analysis, and opportunities and constraints analysis. Each of these sections helps to identify what opportunities, issues, and obstacles exist with regard to creating a more livable and desirable corridor.
- Technical Report #3 is predominantly the recommendations document associated with the Study. Technical Report #3 will present recommendations for the Corridor including

traffic, land use, quality of life, and other topics deemed important by local residents and Technical Review Committee members.

- Technical Report #4 will be an implementation-based document that defines specific actions and activities desired to achieve and meet the recommendations and goals set forth in Technical Report #3.

## 1.2. The Study Area

State Route 96 in Tompkins County begins at the Seneca and Tompkins County lines in the northwest corner of the County and travels southeast through the Village of Trumansburg, Hamlet of Jacksonville, Town of Ulysses, Town of Ithaca, and culminates in downtown City of Ithaca at the confluence of State Route 13 and the Cayuga Inlet. The Route 96 Corridor Management Study examines the 10-mile stretch of road, including all lands within a mile the Corridor, from the southern municipal boundary of the Village of Trumansburg traveling southeast to the intersection with State Route 13.

The Corridor is rural in nature in the northwestern reach in the Town of Ulysses, reflecting the importance of agriculture, both historically and today. Traveling southeast into the Town of Ithaca, residential and commercial development increases in intensity. Finally, the Corridor culminates in the City of Ithaca, which consists of dense housing and commercial businesses.

The West Hill area is one of the areas where increased housing development has occurred and where additional potential for development exists. Much of this area is served by NYS Route 96 as the primary commuting route. The Route 96 corridor is the location of most of the commercially-zoned property in the Town of Ulysses, and planned development in the corridor is seen as crucial to allowing economic growth. It is a concern that such increased development will worsen congestion in the City of Ithaca and impact traffic flow and livability along the entire corridor therefore, mitigating the anticipated traffic impacts related to growth is critical. .

### 1.3. The Planning Process

The Route 96 Corridor Management Study is a collaborative planning effort between Tompkins County, the City of Ithaca, the Town of Ithaca, the Town of Ulysses, the Ithaca-Tompkins County Transportation Council, and the Tompkins Consolidated Area Transit. Representatives from each of the organizations comprise the Corridor Management Study Technical Review Committee.

#### 1.3.1. Work Completed To Date

The planning process completed to produce Technical Report #1 of the Route 96 Corridor Management Study included the following tasks:

##### Project Start-Up Meeting with Consultant Team

A project start-up meeting was held at the onset of the planning process which included members of the consultant team and the Technical Review Committee. The purpose of the meeting, held on January 25, 2008, was to review specific tasks associated with the scope of work, clarify responsibilities of team members, and identify action items.

##### Internal Committee Meetings

Following the project start-up meeting, the Technical Review Committee held a number of follow-up meetings to discuss the project internally, review committee responsibilities, identify action items, and to coordinate the delivery of background information and materials to the consultant team.

##### Community Survey

A community survey was distributed to all residential properties abutting the corridor during the last week of February 2008. Residents were asked to return completed surveys to Tompkins County Planning Department by March 12, 2008. The survey is summarized in Chapter 4 of this report.

##### Data Collection and Review

An abundance of data was provided to the consultant team by members of the Technical Review Committee, including completed plans and reports, data, assumptions regarding future development scenarios, and other narrative to be incorporated into Technical Report #1.

Existing planning reports, including the Tompkins County Comprehensive Plan, Town of Ithaca Transportation Plan, ITCTC Route 96 Journey to Work Report, Tompkins County Freight Transportation Study, Tompkins County Scenic Resources Survey, and

Tompkins County Bicycling Suitability Map were reviewed as part of the initial planning process to familiarize the project team with related planning efforts and relevant data and statistics.

#### Field Review and Analysis

Traffic counts were conducted for weekday AM and PM commuter peaks on the corridor due to the functional characteristic of the corridor as a primary commuter route for the City of Ithaca. The hours selected for analysis included Weekday AM (7:00 AM – 9:00 AM) and Weekday PM (4:00 PM – 6:00 PM). Traffic counts were collected by SRF on March 3<sup>rd</sup> through 5<sup>th</sup> at five study area intersections. All intersections identified were observed during peak intervals to assess existing traffic operating conditions. Signal timing was also collected to determine peak hour phasing plans and phase durations during each interval.

Travel time data (i.e. time to travel the length of the corridor including delays related to driveways and intersections) was collected for both the northbound and southbound directions along the length of the study corridor. The data collection, which occurred from 7:00 AM – 9:00 AM and from 4:00 PM – 6:00 PM on Wednesday, March 12, 2008 and Thursday, March 13, 2008, captured both the AM and PM peak commuter time periods.

#### Windshield Survey

A windshield survey of the corridor was completed on March 17, 2008. Images taken during the windshield survey, with relevant notes, are included in the Appendices of Technical Report #1. The windshield survey was intended to confirm existing condition data and identify any specific issues or opportunities along the corridor.

#### Technical Review Committee Meeting

A Technical Review Committee Meeting was held on April 1, 2008. The meeting included a presentation by the consultant team related to the existing conditions information included in Technical Report #1. Comments and questions were received by the Technical Review Committee and additional assumptions regarding future development build-out and travel volumes were discussed.

#### Public Information Meeting

The first Public Information Meeting took place on April 23, 2008 at 6:30 PM at the Paleontological Research Institution on Trumansburg Road. The meeting began with a presentation by the consultant team which included a brief overview of the project partners, purpose, and timeline, a review of the results of the community survey, a review of traffic data compiled to date, and an introduction to the nodal development

scenario. At the close of the meeting attendees were given the opportunity to ask questions about the Plan, the process, and next steps that will be undertaken.

#### Focus Group Sessions

Two focus group sessions were held with commercial and institutional property owners along the Route 96 corridor. Over eighty commercial, institutional, and business property owners were sent invitations to participate in one of two focus group sessions which were held on April 1<sup>st</sup> and April 3<sup>rd</sup>, 2008 at two different locations along the corridor in the Town of Ithaca and in the Hamlet of Jacksonville in the Town of Ulysses. The purpose of the focus group sessions was to identify the opportunities, constraints, and issues associated with owning and maintaining a business on Route 96. A list of meeting participants and summaries of comments from the focus group sessions are included in Appendix 5 of this report.

#### Stakeholder Interviews

Two key stakeholders were identified by the Technical Review Committee as having a particular interest in the future development of Route 96; Cayuga Medical Center and Tompkins Consolidated Area Transit. One-on-one meetings were held between staff members from each of these organizations, the consultant team, and members of the Technical Review Committee. The meetings were intended to provide the opportunity for the organizations to discuss their specific concerns as they relate to traffic and land development along the corridor. Summaries of these discussions are included in Appendix 6 of this report.

### 1.3.2. Next Steps

#### Technical Report #2

The consultant team will continue to make progress towards the development of Technical Report #2. This report will focus on identifying future projections and conditions along the corridor based on nodal development scenario models. A Transportation Impact Analysis will be completed that includes trip demand estimates, Traffic Analysis models, impacts associated with defined livability benchmarks, and safety and travel impacts.

## 2.0 STATE OF ROUTE 96 CORRIDOR

### 2.1. Existing Land Use

Land uses along the Route 96 Corridor study area changes from mostly rural at the north end in the Town of Ulysses to low density residential and commercial in the Town of Ithaca to dense residential and commercial development in the City of Ithaca at the south end of the corridor. Map 2 highlights the existing land use of parcels adjacent to Route 96.

Overall, the corridor is largely undeveloped: 34% of the study area is Vegetative Cover, 30% is active agricultural land, and 17% is in residential use. Only 3% of the corridor is in commercial use, almost exclusively in the City of Ithaca limits.

From 1995-2007, the most significant changes in land use were: 9% growth in residential land development, 20% increase in the commercial use, and loss of actively farmed agricultural land, including a 12.5% increase in inactive agricultural land, and an overall loss of almost 5% of agricultural land.

**TABLE 1 – CHANGE IN LAND USES**

Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca

LULC	1995 Acres	Percent	2007 Acres	Percent	Change (acres)	Pct Change
Agriculture	4691.64	30.13	4482.85	28.79	-208.80	-4.45
Barren or Disturbed	79.09	0.51	59.77	0.38	-19.32	-24.43
Commercial	378.85	2.43	454.03	2.92	75.18	19.85
Inactive or Former Agriculture	766.60	4.92	862.36	5.54	95.76	12.49
Industrial	161.25	1.04	161.32	1.04	0.07	0.04
Public/Institutional	305.58	1.96	306.17	1.97	0.58	0.19
Recreation	452.39	2.91	443.22	2.85	-9.17	-2.03
Residential	2441.26	15.68	2664.72	17.11	223.47	9.15
Transportation/Transmission	38.88	0.25	38.88	0.25	0.00	0.00
Vegetative Cover	5382.14	34.57	5226.71	33.57	-155.44	-2.89
Water and Wetlands	873.54	5.61	871.20	5.59	-2.34	-0.27



## 2.2. Zoning

Each of the municipalities along the corridor has an approved Zoning Ordinance, which is summarized below:

### 2.2.1. Town of Ulysses

The zoning districts in the Town of Ulysses include:

- A1–Agricultural District
- A2–Special Agricultural District
- R1–Rural Residence District
- R2–Moderate-Density Residence District
- RM–Multiple-Residence District
- MHP–Manufactured Home Park
- H1–Hamlet District
- B1–Business District
- IL–Light Industrial District
- PR–Park/Recreation District
- DD–Development District

Please refer to Map 3 which identifies the zoning districts currently represented on the corridor. The purposes and permitted uses are included on the Town’s website at [http://www.ulysses.ny.us/zoning-law\\_10-10-07.pdf](http://www.ulysses.ny.us/zoning-law_10-10-07.pdf).

The zoning along the Route 96 Corridor in the Town of Ulysses portion of the study area begins at the Village of Trumansburg municipal boundary, bordered by park zoning on both sides of the road: Smith Woods, a Unique Natural Area stands on the east and the County Fairgrounds- zoned Special Agricultural District on the west. The Fairgrounds host many agricultural and cultural events, notably the annual Grassroots Festival that is becoming a regional summer event.

Just south of this area the corridor becomes a business zone, where both sides of the road host grocery, pharmacy, food services, and retail car shopping areas. The east side of the business zone abuts a light industry zone where an agriculture support business operates just south of this area Taughannock State Park, zoned for park use, spills across both sides the Route 96 corridor.

For the next two miles, agriculture and rural residential zoning predominate. Dotted on the western side of the corridor are three development districts zoned for special uses, including automobile repair, carpentry, and family entertainment. The hamlet of Jacksonville is located one quarter of the distance down the Corridor study area and is zoned for hamlet uses: primarily residential uses with allowance for offices, businesses,

and food establishments upon Town review and approval. Agricultural and rural residences surround the hamlet.

The Town of Ulysses has a growing commercial area zoned light industrial that is approximately one mile south of the hamlet of Jacksonville at the intersection of Krums Corners, Wilkins, and Trumansburg Roads (Rte 96). Parcels zoned for business abut both the north and south ends of this growing employment zone, and dense housing opportunities bound this industrial zone: including both mobile home park zoning and a moderate density residential zone allows for multi-unit housing.

### 2.2.2. Town of Ithaca

The Town of Ithaca has established seventeen zoning districts which are identified below:

- Agricultural
- Conservation
- Lakefront Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Multiple Residence
- Mobile Home Park
- Commercial
- Neighborhood Commercial
- Community Commercial
- Lakefront Commercial
- Office Park Commercial
- Planned Development Zone
- Industrial
- Light Industrial
- Vehicle Fuel and Repair

Parcels with frontage along the Route 96 corridor are within the Agricultural, Low Density Residential, Medium Density Residential, Multiple Residence, Commercial, and Planned Development District zoning districts. Refer to Map 4 for zoning designations for specific parcels. The purpose and permitted uses for each of the zoning districts may be found in the Town of Ithaca Zoning Ordinance available at Town Hall or on-line at <http://www.town.ithaca.ny.us/pdf/Chpt270.pdf>.

In the Town of Ithaca, at the north end, the Route 96 corridor is agriculturally zoned on the west side and is home to an orchard and low-density housing. The east side is medium density residential where with subdivisions and cul-de-sac housing developments. Continuing south on Route 96 is the approach to the Cayuga Medical

Center, the County's sole hospital. Zoning at this site, as well as adjacent parcels (Paleontological Research Institution and Finger Lakes Massage School), is Office Park Commercial. Planned Development districts are sited on both the north and south extent of the hospital property. A newly instated conservation zone was established to the far east of the study area beyond the hospital, extending south to the City of Ithaca to protect cliff formations. On the west side of the corridor within the Town of Ithaca is a medium density residential zone extends to the City of Ithaca with a new housing development and nursing home. . Heading south from the hospital, medium density residential zoning extends on both sides of road into the City of Ithaca.

### 2.2.3. City of Ithaca

Dense housing (single/multi-family) predominates on the last steep mile down Route 96 entering the City of Ithaca. Crossing the Cayuga Inlet on Route 96 on the approach to the end of the study area, waterfront zoning and park zone for Robert Treman State Park are the two primary zones. Waterfront zoning permits many uses, including business, retail, and commercial.

## 2.3. Natural Resources

### 2.3.1. Topography

Slopes greater than 15 percent within the study area are located in the Town of Ulysses along Taughannock Park Road and Taughannock Creek and near Glenwood Creek. These slopes are also present in the Town of Ulysses along Indian Creek and in the Town and City of Ithaca along the lakeshore and inlet, as well as along brooks and streams flowing into these waterbodies (refer to Map 6).

### 2.3.2. Soils and Geology

The Study area is mostly comprised of good quality agricultural soils, with some areas of prime soil, many areas of fair, and some poor quality soil (refer to Map 7).

Locales within the study area have different surficial geology types: Lacustrine Sand predominates in the northeasternmost portion of the study area just outside the Village of Trumansburg in Town of Ulysses to the Taughannock State Park. The longest stretch of the corridor is predominated by till in the central Town of Ulysses and Town of Ithaca. Bedrock exists on the easternmost extent of Town of Ithaca with cliff formations that are to be conserved near Cayuga Lake. The City of Ithaca has Lacustrine Silt and Clay as well as Recently Deposited Soil at the Cayuga Inlet mouth and surrounding areas.

### 2.3.3. Hydrology

Cayuga Lake abuts the study area to the east, in the Town of Ithaca. Cayuga Lake is the longest of the Finger Lakes and is the second largest Finger Lake as measured by surface area and volume. The length of the lake is 38.2 miles and it has a mean width of 1.75 miles and a maximum depth of 435 feet. The total shoreline along Cayuga Lake is 95.3 miles. The lake itself is 66.4 square miles and has 2.5 trillion gallons of water within it. Cayuga Lake's depth, steep east and west banks, and shallow north and south ends are typical of the glacially-formed Finger Lakes.

Tompkins County is a major contributor to the Cayuga Lake watershed, with about 80 percent of Tompkins County's water draining north into the Finger Lakes and eventually into Lake Ontario. The remaining 20 percent drains south to the Susquehanna River and eventually into the Chesapeake Bay (refer to Map 8).

The subwatersheds within the Study Area, from north to south, include: Taughannock Creek, which follows the bounds of Taughannock State park and extends southwest to the Enfield municipal boundary; West Cayuga Lakeshore South watershed which abuts the Taughannock watershed to the north and covers the rest of Town of Ulysses and all of Town of Ithaca into the City of Ithaca; and the Cayuga Inlet, Fall Creek, and Cascadilla Creek watersheds in the City of Ithaca.

A number of perennial and intermittent streams flow in the study area. Those worthy of note are Taughannock, Willow, and Glenwood Creeks in the Town of Ulysses and Indian Creek in the Town of Ithaca. All of these water bodies empty into Cayuga Lake.

Only the flat portion of the City of Ithaca, primarily in Robert Treman State Park, as well as the land surrounding Taughannock Creek lie within the 100 or 500 year floodplain.

## 2.4. Development Considerations

The following considerations are factored into municipal and/or County development review and are therefore, considered to be development considerations along the Corridor.

### 2.4.1. Agricultural District #2

Agricultural District #2 covers the western half of Tompkins County and includes lands in the Towns of Ulysses, Enfield, Newfield, and parts of Danby and Ithaca. The district encompasses 66,552 acres, which includes 33,492 acres of land that is owned and rented by farmers for farming purposes. Agricultural District #2 covers most of the study area in the Town of Ulysses with the exception of areas around Jacksonville Hamlet, a commercial hub at Krums Corners Road/Rte 96, and the western side of Route 96 in Town of Ithaca. Agricultural District #2 is currently going through an updating process which is expected to be complete in the Fall of 2008.

#### 2.4.2. Agricultural Resource Focus Areas (ARFA's)

Six regions within the County were identified as ARFA's based on soil suitability for agriculture and the concentration of viable farms in the area. An ARFA is located on the west side of Route 96 in Towns of Ulysses and Ithaca, running parallel to the corridor along the edge of the study area and extending west to the County line. This ARFA's orientation almost exactly follows the pattern of good quality agricultural soil in the vicinity.

#### 2.4.3. Natural Features Focus Areas (NFFA)

The County has identified fourteen Natural Features Focus Areas that are included in the Tompkins County Conservation Plan. The Plan provides detailed information about the unique characteristics of the area and outlines a tailored approach to implementation. Within the Study area there are two NFFA's:

- Taughannock Creek in the northwest portion of the County in the Town of Ulysses. Taughannock Falls State Park is the defining feature, with the falls, gorge, lakeshore and recreational amenities bringing thousands of visitors to this area every year. The surrounding landscape is largely agricultural grassland, with scattered pockets of forests and wetlands.
- Lakeshore, which encompasses the entire portion of the Study area in City of Ithaca and the east side of Town of Ithaca. This NFFA encompasses the entirety of Cayuga Lake in Tompkins County and its lakeshore, extending from the Town of Lansing on the east side of the Lake, south to the City and Town of Ithaca, and northwest through the Town of Ulysses.

#### 2.4.4. Unique Natural Areas (UNA)

Unique Natural Areas are those areas determined to be a part of the landscape that has outstanding environmental qualities in Tompkins County. This broad designation may include special natural communities, or plants and animals that are rare or scarce elsewhere in the county or region. There are nearly 200 sites in the County determined to contain significant ecological, biological, geological, or aesthetic characteristics. The UNAs are not legislated areas, but the County and some local municipalities do reference these areas and give them due consideration in planning and development review. The Town of Ulysses has not adopted UNAs nor do they currently have guidelines for considering them as part of the site plan review or permit process.

The UNAs within proximity to Route 96 are:

- UNA-93: DEC Mapped Wetland that runs southwest from the Town of Ulysses, Town of Ithaca border, Town of Enfield border just east of Sheffield Road and South of Iradell Road.
- UNA-57: Smith Woods is a stand of woods that borders the Village of Trumansburg to the north, located on the east side of Route 96 just inside the Town of Ulysses
- UNA-97: Indian Creek Gorge and Lake Slopes skirts Cayuga Lake in the Town of Ithaca to the City of Ithaca municipal line.
- UNA-98: Located at the tip of Robert Treman Park, Hog Hole is a designated UNA that extends into Cayuga Lake at the northeast end of the City of Ithaca.
- UNA -137: Octopus Cliffs is the extent of cliffs that border Cayuga Lake and continue southwest, rising above Cayuga inlet in the City of Ithaca.

#### 2.4.5. Water and Sewer Infrastructure

The City of Ithaca parcels in the study area are all served by water/sewer. Almost all of the Town of Ithaca is also served by water/sewer, with the exception of land that cannot be developed. The Town of Ulysses is partially served by water, primarily along the Route 96 corridor, and there is currently no sewer service provided in any areas of the Town (refer to Map 9).

#### 2.4.6. Other Considerations

The hamlet of Jacksonville has a specific land consideration for development. The parcels held by Exxon/Mobile (near intersection of Route 96 & Jacksonville Road) cannot be developed for housing due to previous contamination. Therefore, these parcels must serve an alternative community function, such as a commercial district, public park & ride, public open space, or other appropriate use as determined by the community. This includes seven land parcels in the hamlet.

## 2.5. Transportation Characteristics

### 2.5.1. Physical Description and Condition of the Road

Through the Towns of Ulysses and Ithaca Route 96 has considerable width and wide shoulders. The overall character of the roadway changes when entering the City of Ithaca as the roadway width narrows and there is minimal, if any, shoulder. Within the City limits the narrower roadway is partially offset by a designated pedestrian sidewalk system located on one side of the road.

Overall, the condition of Route 96 within the study area is good. There are no notable areas along the corridor where the road is in failing condition and in need of any immediate measures or improvements.

### 2.5.2. Sidewalks, Bike Lanes, and Trails

The only existing sidewalks in the study area are located in the City of Ithaca, adjacent to Route 96. Adjacent to the study area, sidewalks exist in downtown Ithaca as well as the Village of Trumansburg. The Town of Ithaca has completed a study that calls for sidewalks to be extended on all residential and state highway streets within the Town. Bicyclists share road shoulders with cars for the entire length of the study area; there are no dedicated bike lanes.

The proposed Black Diamond Trail that would extend from Robert Treman Park in the City of Ithaca northwest to Trumansburg will run almost parallel to Route 96 on an abandoned rail bed for the length of the study area. In 2007, the New York State Office of Parks, Recreation, and Historic Preservation presented a Draft Master Plan and Environmental Impact Statement for the development of the trail (refer to Map 10).

### 2.5.3. Park and Ride Lots

There is one established park and ride lot in the Village of Trumansburg that is utilized heavily by TCAT commuters. It is a small lot with 20-30 spaces and is usually close to capacity. There are conflicts during the summer months with this lot as it also serves as the location for the Trumansburg Farmers Market.

An informal park and ride has existed on and off at the Hospital parking lot complex, though detailed information on use and availability is unknown. Hospital personnel have stated that all existing parking available at the hospital is needed for staff, patients, and guests and there is no additional parking available for park and ride users at this time.

A second informal park and ride has also been established at Jacksonville Methodist Church. Approximately 5-7 cars park here on a daily basis to pick up a bus for travel

into Ithaca. The Church has allowed the use of their parking lot for daily parking, though it does create parking conflicts on the occasions when the church hosts a weekday event which requires full use of their parking lot.

#### 2.5.4. Transit

Two TCAT bus routes travel the corridor – Routes 19 and 21. Route 19 circulates from the City of Ithaca up to the Cayuga Medical Center. Route 21 circulates from Cornell to the Tompkins County/Seneca County line at the north edge of Trumansburg.

Ridership has increased on Route 19 between 2006 and 2007, from 10,621 riders to 11,726. Route 21 has seen a slight decline in its ridership over the same period with a change in ridership from 99,455 to 99,066. The following table shows transit ridership in 2008 during the Weekday AM Peak on Routes 19 and 21.

**TABLE 2 – TRANSIT RIDERSHIP, WEEKDAY AM PEAK, FEBRUARY 2008**  
TCAT Bus Routes 19 and 21

Location	Riders / Day
Aubles Trailer Park	6.6
Juniper Manor	0.5
Trumansburg Central School	5.1
Jacksonville Post Office	2.1
Overlook Apts.	2.7
Cayuga Medical Center	1.5
State @ Fulton	2.0
Ithaca Bus Station	1.6
Green @ Commons	7.4
Seneca @ Commons	6.2
Sage Hall	0.4
Statler Hall	0.3
Vet School	1.3
Grand Total:	37.7



## 3.0 EXISTING TRAFFIC CONDITIONS

### 3.1. Peak Intervals for Analysis

Given the functional characteristics of the corridor (i.e. Route 96 is the primary commuter route from West Hill into the City of Ithaca) and the land uses that fall under the current zoning along the corridor (residential, retail/service, office), the peak hours selected for the analysis were the weekday AM and PM commuter peaks. These peak time periods provide the highest traffic volumes throughout the day as identified through NYSDOT machine count data.

### 3.2. Existing Traffic Volume Data

Weekday AM (7:00-9:00am) and PM (4:00-6:00pm) peak traffic counts were collected by SRF & Associates (SRF) on March 3 through March 5, 2008 at five study area intersections along Route 96 as follows:

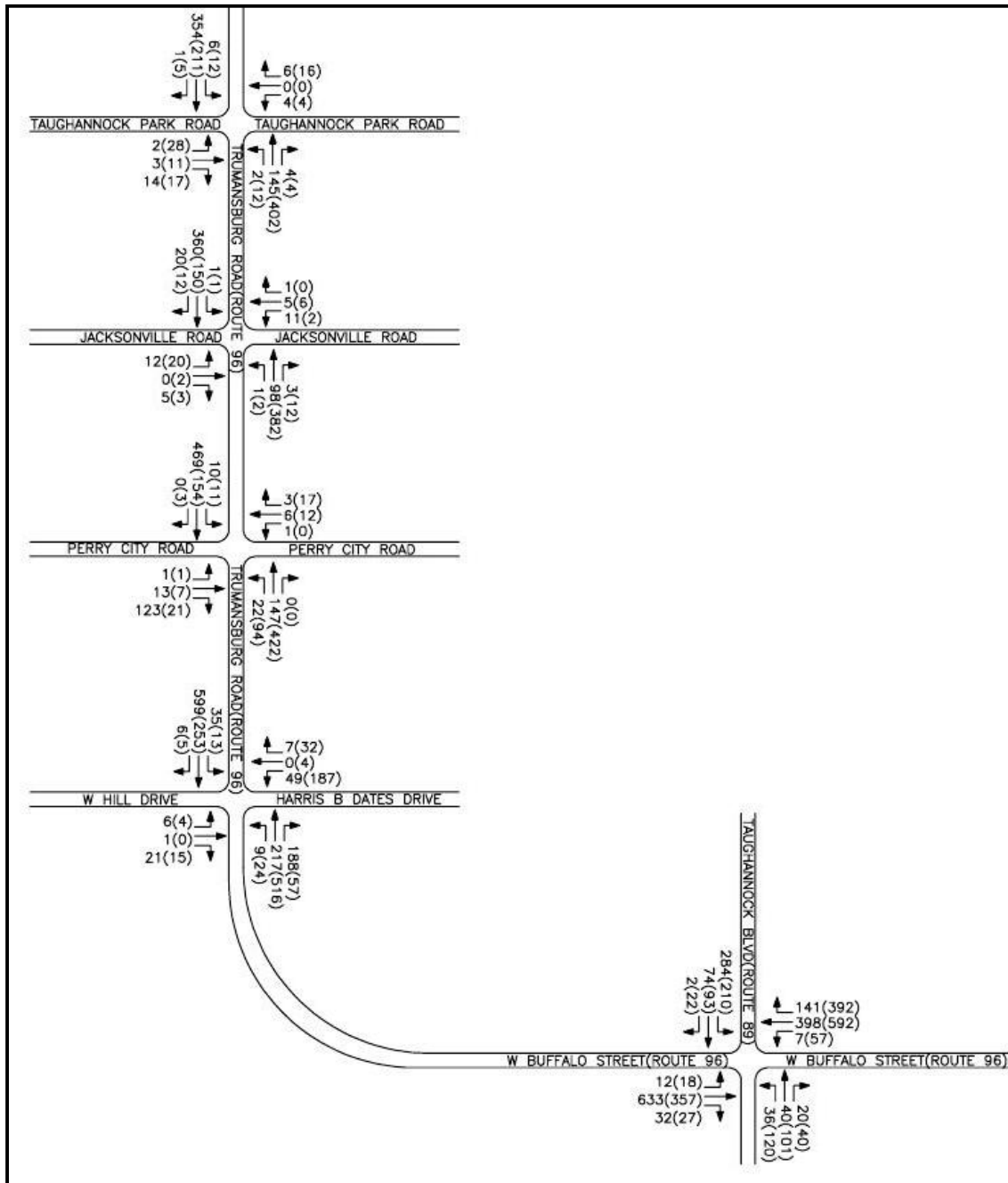
- Taughannock Park Road, *unsignalized*
- Perry City Road, *unsignalized*
- Jacksonville Road, *unsignalized*
- Cayuga Medical Center, *signalized*
- NYS Route 89 (Taughannock Boulevard), *signalized*

All traffic volumes were reviewed to confirm the accuracy and relative balance of the collective traffic counts. Relative balance refers to the relationship of traffic volumes between intersections. For example, if 500 cars leave an intersection and only 100 arrive at the next intersection, there is either an error in the counts that must be corrected or another explanation, such as a major intersection in between them.

All traffic volumes were found to balance within the network within reasonable and expected variations. The actual differences in traffic volumes can be attributed to activity related to intersections and driveways located in the segments between the intersections. The peak hour traffic periods generally occurred between 7:45 and 8:45 AM and 4:30 to 5:30 PM. The existing peak hour volumes are depicted in Figure 1.

Existing Average Daily Traffic (ADT) information was obtained from the NYSDOT *Traffic Volume Report* as well as the ITCTC Year 2006 Final Traffic Count Report. According to the most recent traffic volume data collected by the New York State Department of Transportation (NYSDOT) in 2006, the annual average daily traffic (AADT) along Route 96 between Route 89 overlap and Perry City Road is 8,847 vehicles per day (vpd).

FIGURE 1 – PEAK HOUR VOLUMES, EXISTING CONDITIONS  
Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca



### 3.3. Study Area Intersections

#### 3.3.1. Field Observations

All intersections included in the project area were observed during peak intervals to assess existing traffic operating conditions at each intersection. Signal timing information was collected, at the previously identified signalized intersections, to

determine peak hour phasing plans and phase durations during each interval.(please define these briefly) This information was used to support and/or calibrate capacity analysis models described in detail later in Report #1.

### 3.3.2. Existing Operations

Capacity analysis is a technique used for determining a measure of effectiveness for a section of roadway and/or intersection based on the number of vehicles during a specific time period. The measure of effectiveness used for the capacity analysis is referred to as a Level of Service (LOS). Levels of Service are calculated to provide an indication of the amount of delay that a motorist experiences while traveling along a roadway or through an intersection. Both roadway section and intersection capacity analyses have been performed and described in this section of the report.

Six Levels of Service are defined for analysis purposes. They are assigned letter designations, from "A" to "F", with LOS "A" representing operating conditions with the least time delay. LOS "F" is the least desirable operating condition where longer delays are experienced by motorists.

The standard procedure for capacity analysis of signalized and unsignalized intersections is outlined in the 2000 Highway Capacity Manual (HCM 2000). Traffic analysis software, SYNCHRO (Build 614), which is based on procedures and methodologies contained in the HCM 2000, was used to analyze operating conditions at study area intersections. The procedure yields a Level of Service (LOS) based on the HCM 2000 as an indicator of how well intersections operate.

Existing operating conditions are documented in the field and modeled using traffic analysis software. The traffic analysis models are calibrated based on the actual field observations.

**TABLE 3 – INTERSECTION CAPACITY ANALYSIS RESULTS**  
Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca

INTERSECTION	AM	PM
Route 96/Taughannock Park Rd-Rabbit Run Rd		
Eastbound – Rabbit Run Road	B	C
Westbound – Taughannock Park Road	B	B
Northbound – Route 96	A	A
Southbound – Route 96	A	A
Route 96/Jacksonville Road		
Eastbound – Jacksonville Road	B	C
Westbound – Jacksonville Road	B	C
Northbound – Route 96	A	A
Southbound – Route 96	A	A
Route 96/Perry City Road		
Eastbound – Perry City Road	C	B
Westbound – Perry City Road	C	C
Northbound – Route 96	A	A
Southbound – Route 96	A	A
Route 96/Cayuga Medical Center-Overlook		
Eastbound - Overlook	B	A
Westbound – Cayuga Medical Center	C	C
Northbound – Route 96	A	A
Southbound – Route 96	A	A
Overall LOS/Delay in sec/veh	A (5.9)	B (11.8)
Route 96/Route 89		
Eastbound – Route 96	C	B
Westbound – Route 96	B	B
Northbound – Route 89	C	D
Southbound – Route 89	B	C
Overall LOS/Delay in sec/veh	C (20.2)	C (20.1)

A review of both AM and PM capacity analysis results indicates that all of the study intersections are currently operating at levels of service equal to or better than average capacity levels (LOS “C”) with the exception of the Route 96/Route 89 intersection during the PM peak hour. This intersection is currently operating at LOS “D” on the northbound (Route 89) approach during the PM peak hour. It is noted that the level of service results for the AM peak hour are not reflective of actual operating conditions at this intersection. The travel time surveys and video indicate that the eastbound Route 96 approach is significantly delayed during the AM peak hour due to queuing from the Fulton Street intersection. This will be investigated in greater detail to calibrate the model to more accurately replicate actual conditions.

### 3.4. Access Density

Table 4 provides detailed information concerning access density and driveway spacing throughout the study area. Access density is defined as the number of driveways per mile and is calculated for each direction of travel and the corresponding side streets/driveways on the side of the highway to the driver's right. Generally, as driveway density increases and/or average driveway spacing decreases, the potential for collisions also increases. The average driveway spacing and driveways density are important considerations when planning for future development and driveway locations. This information may be used to evaluate the impacts of access density on travel time and operations under future development scenarios.

**TABLE 4 – ACCESS DENSITY DATA**

Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca

SEGMENT	LENGTH OF SEGMENT	ADT - 1 DIRECTION)	NUMBER OF DRIVERS	ACCESS DENSITY	AVERAGE DRIVEWAY SPACING (FT)
NB – Fulton St to Route 89	475	8,675	2	22	1,164
NB – Route 89 to Cayuga Medical Center	12,479	6,100	60	25	556
NB – Cayuga Medical Center to Perry City Road	18,803	4,600	64	18	336
NB – Perry City Road to Jacksonville Road	6,839	3,670	21	16	288
NB – Jacksonville Rd to Taughannock Park Rd	10,071	3,350	18	9	203
NB – Taughannock Park Rd to South Village Line	3,628	3,700	3	4	110
SB – S. Village Line to Taughannock Park Rd	3,628	3,800	9	13	140
SB – Taughannock Park Rd to Jacksonville Rd	10,071	2,700	29	15	293
SB – Jacksonville Road Perry to City Road	6,839	2,800	17	13	291
SB – Perry City Road to Cayuga Medical Center	18,803	4,500	64	18	418
SB – Cayuga Medical Center to Route 89	12,479	6,700	42	18	324
SB – Route 89 to Fulton St	475	10,000	2	22	422

### 3.5. Travel Time Surveys

Travel time data (i.e. time to travel the length of the corridor including delays related to driveways and intersections) was collected for both the northbound and southbound directions along Route 96 and 89. The boundaries of the Route 96 corridor include the Village of Trumansburg south boundary limit to the north and North Fulton Street (NYS Route 13) to the

south and the Route 89 corridor include Gorge Road to the north and West Buffalo Street to the south.

The data collection occurred on Wednesday, March 12, 2008, and Thursday, March 13, 2008 on Route 96 and on Monday, April 21, 2008 and Tuesday, April 22, 2008 on Route 89, between 7:00am - 9:00am and 4:00pm - 6:00pm capturing both the AM and PM peak commuter time periods. Two vehicles were used each with a GPS device mounted on the front dash of the car in order to have an unobstructed sky view to obtain GPS satellite acquisition.

Bi-directional data were collected as the vehicles started their travel at opposite ends of the corridor and ran continuous loops throughout each 2-hour period. Each driver was instructed to either match the flow of traffic or follow the posted speed limit; passing of vehicles did not occur. The number of travel runs per direction is dependent upon the amount of delay incurred. Table 5 summarizes the total number of travel runs per direction for both corridors.

**TABLE 5 – NUMBER OF TRAVEL TIME RUNS**

Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca

AM Peak		PM Peak	
NB	SB	NB	SB
11	9	8	6

### 3.5.1. Methodology

The GPS receiver used for this travel-time study is a custom-made Pocket Track Pro GPS receiver from Brickhouse Security. This unit has data logging capabilities that can store up to 100 hours of motion data. Each record stores time, latitude, longitude, and speed. The downloaded data from the Mini GPS Tracker can then be displayed over US Street Maps, Google Earth or using an excel format which can then be extracted to different formats allowing for compatibility with many mapping programs such as TransCAD or ArcGIS. The raw data files also contain information regarding acceleration and deceleration patterns, control delay, and stop delay.

### 3.5.2. Corridor Performance Profile Analysis

Time-distance diagrams were plotted in both directions for the AM and PM peak hours. These diagrams graphically show where and when a vehicle stops and starts and also depicts speed as indicated by the slope of the line between the start and stop points (e.g. a flat line (slope = 0) indicates no distance traveled, or a vehicle stopped in queue). Locating these critical points accurately is essential for computing various performance measures like traffic delay, stop delay, running speed, and average speed.

This study resulted in the compilation of 8 graphs (figures) (2 per direction, 2 per study period and 2 study corridors). Each graph displays runs made during the 2-hour period.

Some runs were intentionally omitted from the plot to avoid many overlapping lines. “Free-flow” time/speed is calculated based on the actual speed limit and the segment length. Free-flow time/speed is the baseline comparison for all the other runs depicted on the graph. The peak run is the run that took the longest, with two exceptions as noted on the graphs and in the text.

Table 6 summarizes the findings based on these corridor performance profiles.

**TABLE 6 – SUMMARY OF TRAVEL TIME RESULTS**

Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca

	Route 96: segment length = 9.8 miles											
	Northbound						Southbound					
	AM (Fig 1)			PM (Fig 3)			AM (Fig 2)			PM (Fig 4)		
	Free-Flow	Peak	Diff.	Free-Flow	Peak	Diff.	Free-Flow	Peak	Diff.	Free-Flow	Peak	Diff.
Time of Day of Run		7:11	n/a		4:10	n/a		7:49	n/a		4:47	n/a
Travel Time† (min)	12.5	14.3	1.8	12.5	13.3	0.8	12.5	17.1	4.6	12.5	13.7	1.2
Travel Speed (mph)	47.0	41.1	-5.9	47.0	44.2	-2.8	47.0	34.3	-12.7	47.0	42.9	-4.1
	Route 89: segment length = 8.8 miles											
	Northbound						Southbound					
	AM (Fig 1)			PM (Fig 3)			AM (Fig 2)			PM (Fig 4)		
	Free-Flow	Peak	Diff.	Free-Flow	Peak	Diff.	Free-Flow	Peak	Diff.	Free-Flow	Peak	Diff.
Time of Day of Run		7:22	n/a		4:08	n/a		7:38	n/a		4:28	n/a
Travel Time† (min)	11.35	11.7	0.35	11.35	13.0	1.65	11.35	13.7	2.35	11.35	12.3	0.95
Travel Speed (mph)	46.6	45.2	-1.4	46.6	40.7	-5.9	46.6	38.6	-8.0	46.6	43.0	-3.6

† Travel time is the time it takes to traverse the corridor.

### 3.5.3. Summary of Travel Time Findings

#### Northbound on Route 96

Northbound on Route 96 is the peak flow direction during the PM commuter time period. However, the data shows very little congestion or delay during either AM or PM peak time periods.

During the AM peak time period, the data show a difference of approximately 1.8 minutes of delay between the free-flow travel time and the most congested run at 7:11 AM. This equates to a difference in average running speed of 5.9 mph (47 mph free-flow vs. 41.1 mph peak travel). The most significant area of congestion is located between Bundy Road and Route 89 based on review of the graph (Figure 1).

Route 96 northbound during the PM study time (4pm - 6pm) (Figure 3) experiences a difference of 0.8 min and 2.8 mph between free-flow and peak travel conditions. The shaded areas, or areas of congestion, appear to be mostly related to the Hospital/West Hill Drive intersection.

#### Southbound on Route 96

The southbound direction peak flow occurs during the morning commuter peak travel period (Figure 2). The data show the majority of the congestion and delay occurring at the Route 96/Route 89 intersection. There is a difference of approximately 4.6 minutes of delay between the free flow travel time and the run that depicts the most congested conditions at 7:49 AM. This equates to a difference in average running speed of 12.7 mph (47 mph off-peak vs. 34.3 mph peak travel). The difference in corridor travel time between the shortest and longest runs is a combination of delay and congestion at Route 89 as well as minor delays at the Hospital/West Hill Drive intersection. The final graph in Appendix 7 is a close up view of the southbound AM condition in the vicinity of Route 89 and Fulton Street. This graph shows the delay incurred at this location during the morning commuter period.

Route 96 southbound during the PM study time (Figure 4) demonstrates a difference between off-peak and peak travel conditions of 1.2 min and 4.1 mph. The most significant area of delay is between the Hospital/West Hill and Route 89 intersections. There is very little delay on Route 96 as one travels southbound during the PM peak.

#### Northbound on Route 89

Northbound on Route 89 is the peak flow direction during the PM commuter time period. However, the data shows very little congestion or delay during either AM or PM peak time periods.



During the AM peak time period, the data show a difference of approximately 0.35 minutes of delay between the free-flow travel time and the most congested run at 7:22 AM. This equates to a difference in average running speed of 1.4 mph (46.6 mph free-flow vs. 45.2 mph peak travel) (Appendix 8).

Route 89 northbound during the PM study time (4pm - 6pm) experiences a difference of 1.65 min and 5.9 mph between free-flow and peak travel conditions.

#### Southbound on Route 89

The southbound direction peak flow occurs during the morning commuter peak travel period (Appendix 8). The data show the majority of the congestion and delay occurring at the Route 96/Route 89 intersection. There is a difference of approximately 2.35 minutes of delay between the free flow travel time and the run that depicts the most congested conditions at 7:38 AM. This equates to a difference in average running speed of 8 mph (46.6 mph off-peak vs. 38.6 mph peak travel).

Route 89 southbound during the PM study time (Appendix 8) demonstrates a difference between off-peak and peak travel conditions of 0.95 min and 3.6 mph. There is very little delay on Route 89 as one travels southbound during the PM peak.

## 4.0 RESIDENTIAL COMMUNITY SURVEY ANALYSIS

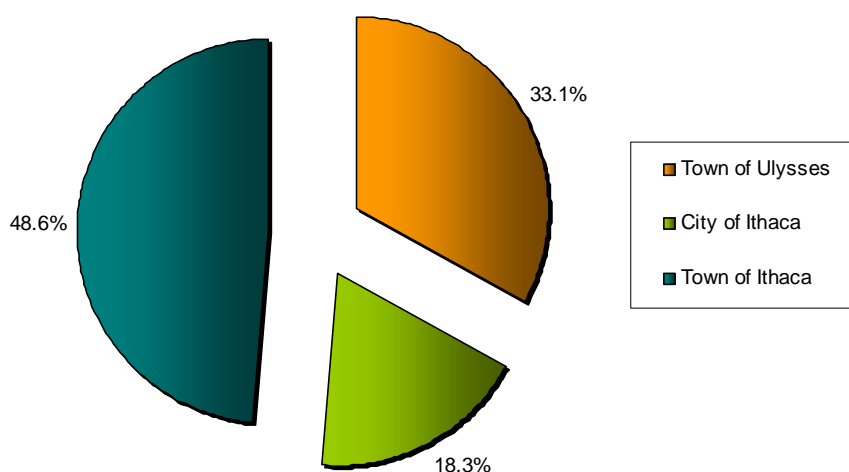
### 4.1. Introduction

During February and March 2008, the Tompkins County Planning Department conducted a community survey to identify what makes the Route 96 corridor a desirable place to live, what makes it less than ideal, and what concerns residents have about future growth and development. This survey is one part of the Route 96 Corridor Management Study planning process and will assist in defining a preferred development pattern for the corridor.

The survey was divided into four main categories that addressed general livability issues, destinations and access, public transportation, and safety and traffic. The survey also afforded respondents with an opportunity to provide general comments regarding the Route 96 corridor and submit demographic information. .

Of the 592 surveys distributed to corridor residents, approximately 174 surveys were completed and returned to the Tompkins County Planning Department by the deadline date and 34 were returned with no known address or because of vacancy. Removing the latter 34 surveys from consideration, 558 actually reached corridor residents, resulting in a return rate of approximately 31 percent. Of the returned surveys, 33 percent were from residents of the Town of Ulysses, 49 percent were from residents of the Town of Ithaca, and 18 percent were from residents of the City of Ithaca.

**FIGURE 2 – BREAKDOWN OF SURVEY RESPONDERS FROM EACH COMMUNITY**  
Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca



When reviewing the summary of the survey findings, it is important to keep in mind that, while a majority of the surveys returned were completed in full, several were only partially completed. As such, the number of responses may vary for some questions. A copy of the original survey can be found in Appendix 2.

## 4.2. General Questions

The questions in this section of the survey addressed the general benefits of living along the Route 96 corridor, as well as residents' perceptions of issues associated with residing along the corridor.

### QUESTION A:

#### WHAT DO YOU LIKE MOST ABOUT LIVING ALONG THE ROUTE 96 CORRIDOR?

Respondents were asked to identify those characteristics of the Route 96 corridor that make it an enjoyable place to live based on the following options:

- Convenience to area destinations;
- Living on a state highway;
- Rural character of West Hill;
- Scenic views;
- Neighbors;
- Access to businesses on Route 96; and
- Other.

Based on the results of the survey, the majority of respondents indicated that convenience to area destinations (74.1 percent), scenic views (58.0 percent), and the rural character of West Hill (46.0 percent) as the characteristics that make the Route 96 corridor an enjoyable place to live. The response rates for all options is indicated in the chart below:

### FIGURE 3 – HIGHEST RATED ATTRIBUTES

Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca

Corridor Characteristics	Percent of Respondents
Convenience to area destinations	74.1%
Living on a state highway	10.9%
Scenic views	58.0%
Rural character of West Hill	46.0%
Neighbors	24.7%
Access to businesses on Route 96	13.2%
Other	17.8%

While convenience to area destinations was ranked highest by each of the three communities, ranking of the remaining characteristics varied by location. Respondents from the Town of Ithaca, for example, more frequently indicated that scenic views make the corridor an enjoyable

place to live (68.2 percent) versus residents of the Town of Ulysses who rated scenic views at 43.1 percent.

QUESTION B:

HOW IMPORTANT ARE THE FOLLOWING ISSUES ON ROUTE 96?

Respondents were asked to rank the following issues as very important, somewhat important, somewhat unimportant, not important, or not an issue:

- Too much traffic when commuting into the City of Ithaca;
- Too much traffic when commuting out of the City of Ithaca;
- Difficult to access the corridor from driveways;
- Difficult to access the corridor from non-signalized intersections;
- Vehicles making left-hand turns off Route 96 cause delays and/or safety hazards;
- Parking along Route 96;
- No designated lanes for bicycles;
- No sidewalks for pedestrians;
- Difficult for pedestrians to cross the road;
- Air pollution;
- Speeding;
- Truck traffic;
- Train crossing in the City of Ithaca; and
- Other.

FIGURE 4 – RATING OF ISSUES ALONG CORRIDOR

Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca

Corridor Issues	Very Important	Somewhat Important	Somewhat Unimportant	Not Important	Not an Issue	Don't Know
Too much traffic when commuting into the City of Ithaca	53.4%	25.3%	5.7%	3.4%	7.5%	0.6%
Too much traffic when commuting out of the City of Ithaca	40.8%	29.9%	6.9%	4.6%	12.6%	0.6%
Difficult to access the corridor from driveways	43.7%	19.5%	5.7%	4.0%	16.1%	3.4%
Difficult to access the corridor from non-signalized intersections	32.8%	27.0%	10.9%	3.4%	11.5%	4.0%
Vehicles making left hand turns off Route 96 cause delays and/or safety hazard	40.2%	23.0%	13.2%	5.7%	7.5%	1.7%
Parking along Route 96	15.5%	14.4%	14.4%	12.6%	23.6%	8.0%
No designated lanes for bicycles	28.2%	26.4%	7.5%	6.9%	16.1%	4.0%
No sidewalks for pedestrians	29.9%	32.2%	7.5%	5.7%	13.8%	2.3%
Difficult for pedestrians to cross the road	35.6%	30.5%	8.6%	3.4%	10.3%	3.4%
Air pollution	20.1%	25.3%	13.8%	3.4%	17.2%	8.6%
Speeding	54.0%	21.3%	6.3%	5.2%	6.9%	2.9%
Truck traffic	52.9%	25.3%	9.2%	1.1%	4.0%	1.7%
Train crossing	33.9%	23.6%	12.1%	6.3%	14.9%	1.7%
Noise	39.1%	27.6%	9.2%	1.7%	8.0%	2.3%

Based on the results of the survey, the five most important issues along the Route 96 corridor are listed below (the combined percentage for each issue is noted and is derived from the number of respondents who identified the issue as very important or somewhat important).

The five most critical issues along the corridor, as rated by survey responders, are:

1. Too much traffic when commuting into the City of Ithaca (78.7 percent)
2. Truck traffic (78.2 percent)
3. Speeding (75.3 percent)
4. Too much traffic when commuting out of the City of Ithaca (70.7 percent)
5. Noise (66.7 percent)

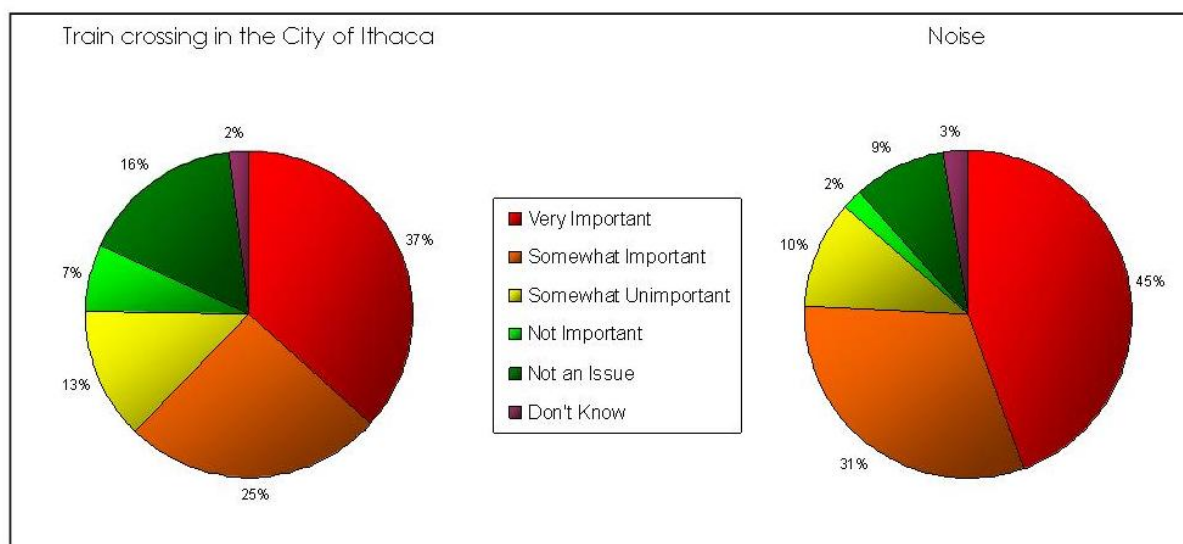
Four of the top five issues also received the fewest responses as being not important or not an issue – too much traffic when commuting into the City of Ithaca (10.9 percent), truck traffic (5.2 percent), speeding (12.1 percent), and noise (9.8 percent).

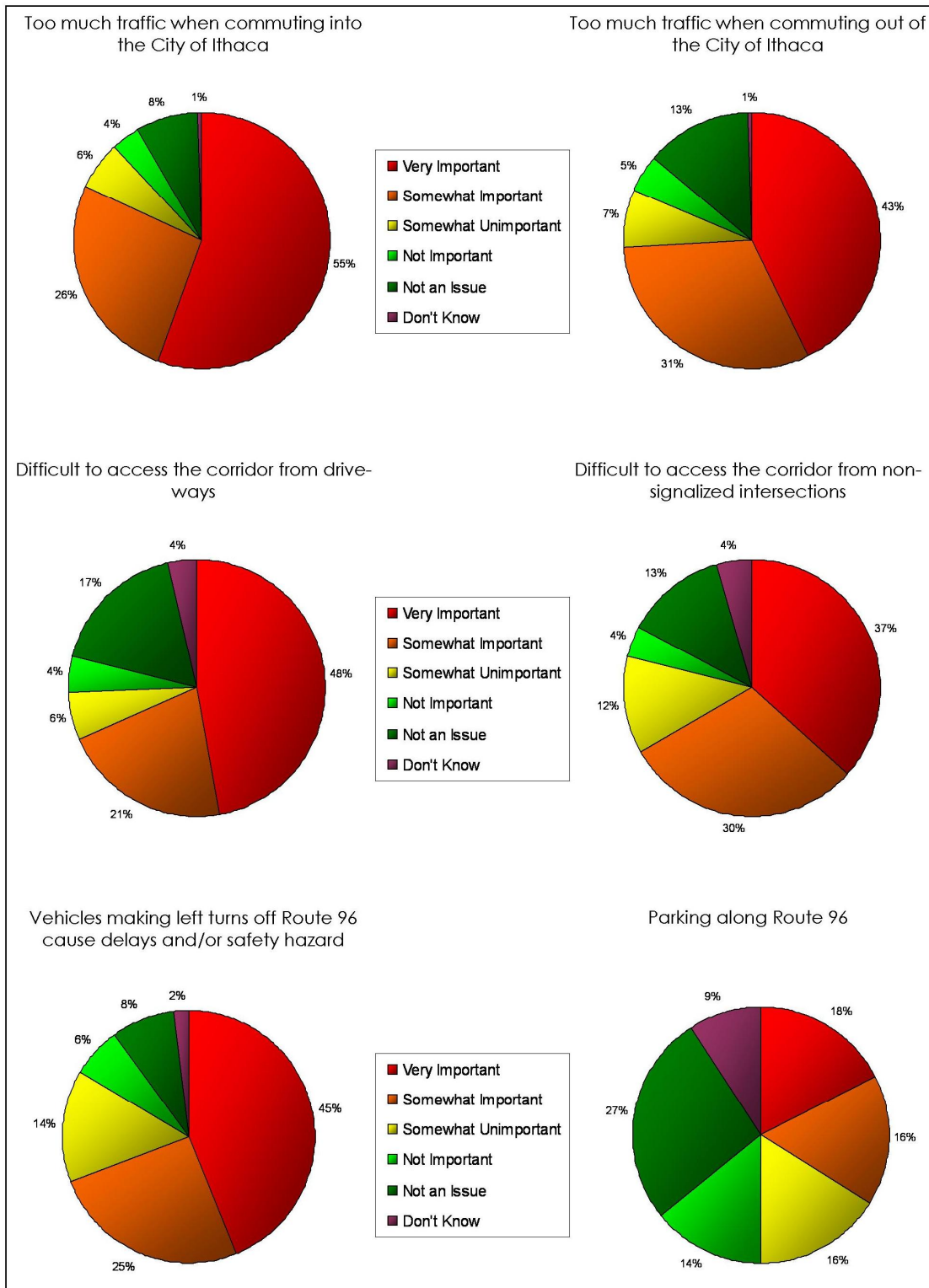
The issue of parking along Route 96 received the lowest ranking in the very important or somewhat important categories (29.9 percent), as well as the highest ranking in the somewhat unimportant, not important, and not an issue categories (50.6 percent).

A breakdown of responses for each of these 14 issues can be found in the charts below and on the following pages.

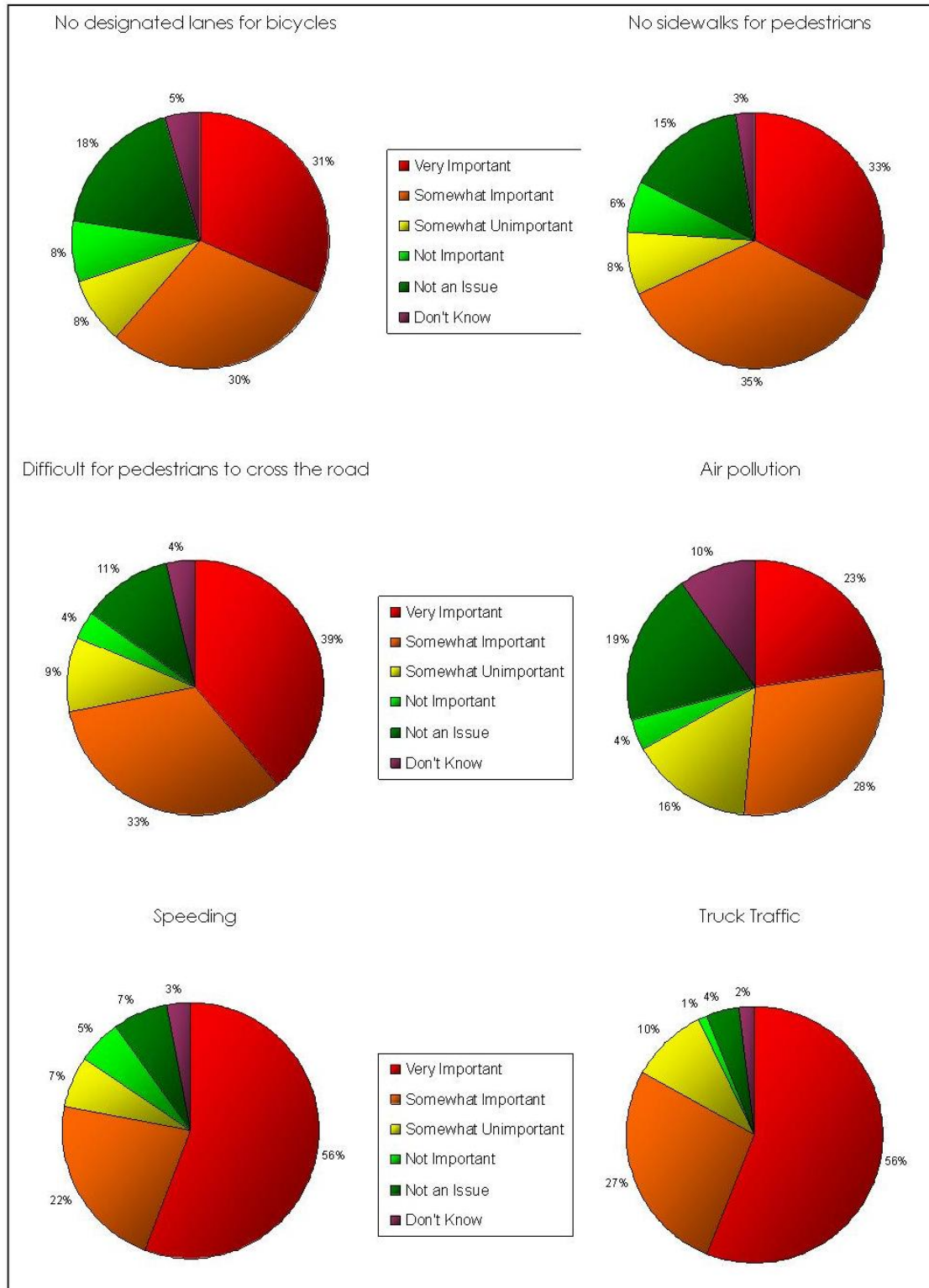
#### FIGURE 5 – BREAKDOWN OF ALL RESPONSES

Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca









Several differences were noted for specific issues when comparing responses from each of the three communities within the study area. Respondents from the Town of Ithaca indicated with much higher frequency that the lack of sidewalks (71.8 percent) and the difficulty for pedestrians crossing the road (71.8 percent) is a very important or somewhat important issue when compared with all respondents, as well as those from the Town of Ulysses and the City of Ithaca.

Respondents from the City of Ithaca, however, indicated much less concern for vehicles making left-hand turns off Route 96 – only 45.2 percent thought that this is a very important or somewhat important problem, compared with 63.2 percent of all respondents. Additionally, City of Ithaca respondents were more concerned with air pollution (67.7 percent) than were respondents from the Town of Ulysses (44.8 percent) or the Town of Ithaca (37.6 percent).

Town of Ulysses respondents were more likely to indicate that the following issues are somewhat unimportant, not important, or not an issue than were respondents from the other two communities:

- Difficult to access the corridor from driveways (37.9 percent);
- Difficult to access the corridor from non-signalized intersections ((37.9 percent);
- No sidewalks for pedestrians (37.9 percent);
- Difficult for pedestrians to cross the road (34.5 percent); and
- Air pollution (44.8 percent).

#### 4.3. Destinations and Access

The questions in this section of the survey focused on existing and future travel patterns along the Route 96 corridor.

##### QUESTION C:

WHAT ARE THE THREE MOST COMMON DESTINATIONS ON ROUTE 96 AND HOW DO YOU TYPICALLY TRAVEL TO THESE DESTINATIONS?

Corridor residents were asked to select their three most common destinations from the following list:

- Village of Trumansburg;
- Hamlet of Jacksonville;
- Cayuga Medical Center;
- Downtown Ithaca;
- Grocery/convenience store along corridor;
- Taughannock Falls Park;
- Non-grocery business along corridor; or
- Other.



In addition to providing destination information, the survey also requested that the preferred mode of transportation be identified for each of the destinations.

**FIGURE 6 – COMMON DESTINATIONS / CURRENT MODE OF TRANSPORTATION**  
Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca

Destination	Bike	Walk	TCAT Bus	Carpool	Drive
Village of Trumansburg	0.6%	0.0%	3.4%	1.1%	48.3%
Hamlet of Jacksonville	0.6%	2.3%	0.6%	0.6%	23.0%
Cayuga Medical Center	0.6%	4.6%	3.4%	0.6%	46.0%
Downtown Ithaca	1.7%	3.4%	10.3%	1.1%	80.5%
Grocery/convenience store along corridor	0.6%	2.3%	1.1%	0.6%	40.8%
Taughannock Falls State Park	1.7%	0.6%	0.6%	2.3%	29.3%
Non-grocery business along corridor	0.6%	1.7%	0.6%	0.6%	17.8%
Other:	0.6%	2.3%	2.3%	2.3%	23.0%

The single most common destination for all respondents was downtown Ithaca (97.1 percent), with the Cayuga Medical Center (55.2 percent) and the Village of Trumansburg (53.4 percent) also being identified as common destinations.

Of the six modal choices provided in the survey, the respondents overwhelmingly selected driving as the preferred choice. It should be noted that many respondents provided more than the three most common travel destinations and an associated mode of transportation. Most of these additional responses indicated that driving was the preferred mode for all destinations.

QUESTION D:

IF CONDITIONS WERE IDEAL, HOW WOULD YOU MOST LIKE TO TRAVEL TO ANY OF THESE DESTINATIONS ON ROUTE 96?

Question D is very similar to Question C, except that respondents were allowed to select any number of destinations and were not limited to only three. The questions were intended to see if residents would change their travel patterns from what they currently are, in an ideal situation.

**FIGURE 7 – COMMON DESTINATIONS / PREFERRED MODE OF TRANSPORTATION**  
Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca

Destination	Bike	Walk	TCAT Bus	Carpool	Drive
Village of Trumansburg	6.3%	3.4%	12.1%	2.3%	46.0%
Hamlet of Jacksonville	5.2%	6.3%	6.9%	0.6%	34.5%
Cayuga Medical Center	3.4%	14.4%	12.1%	1.7%	47.1%
Downtown Ithaca	12.1%	6.9%	27.0%	2.3%	55.7%
Grocery/convenience store along corridor	4.0%	12.6%	9.2%	1.1%	47.1%
Taughannock Falls State Park	11.5%	2.9%	10.3%	1.1%	46.6%
Non-grocery business along corridor	4.0%	6.9%	9.2%	1.1%	33.9%
Other:	2.9%	2.3%	5.2%	0.6%	16.1%

The change in responses from Question C is notable. One key figure is that the number of respondents selecting bike as a preferred mode of transportation increased by more than 600 percent, the number of respondents selecting walk as a preferred mode increased by more than 200 percent, and the number of respondents selecting TCAT as a preferred mode increased by more than 300 percent.

While the number of respondents selecting TCAT as a preferred mode increased for the entire corridor, the rate of increase varied by community. The highest rate of increase occurred for the City of Ithaca (from 1 to 30 responses), followed by the Town of Ulysses (from 7 to 38 responses), and the Town of Ithaca (from 31 to 92 responses).

#### 4.4. Public Transportation

The purpose of this section of the survey was to ascertain the level of public transportation use along the Route 96 corridor, as well as to solicit information regarding the perception of Tompkins Consolidated Area Transit (TCAT) bus service along the corridor.

##### QUESTION E:

DO YOU CURRENTLY UTILIZE TCAT BUS SERVICE ALONG THE ROUTE 96 CORRIDOR? IF SO, HOW FREQUENTLY?

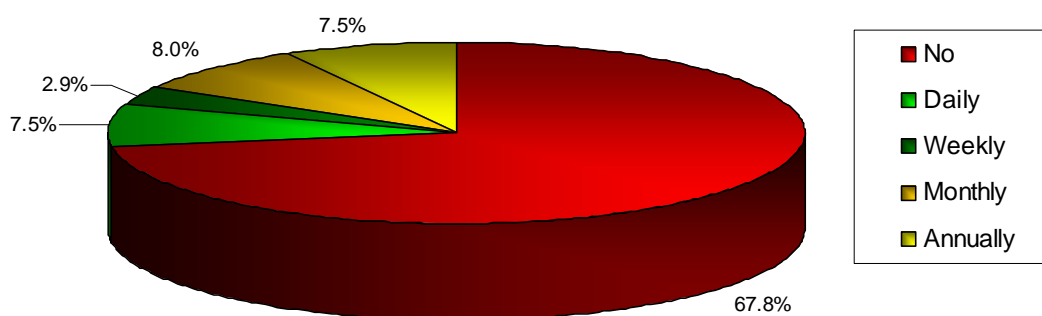
Residents were asked to identify whether they currently use TCAT bus service and, if so, whether they use the service daily, weekly, monthly, or annually.

Based on the results of the survey, approximately 68 percent of respondents indicated that they do not currently use TCAT bus service (this rate jumps to 78 percent when looking only at responses from residents of the Town of Ulysses). Approximately 7.5 percent of respondents are daily users of the bus service, 2.9 percent are weekly users, 8.0 percent are monthly users, and 7.5 percent use the bus at least once annually.

Specific to each community, the respondents from the Town of Ithaca indicated the highest rate of TCAT usage (34.1 percent), followed by respondents from the City of Ithaca (32.3 percent) and the Town of Ulysses (20.7 percent).

#### FIGURE 8 – BUS SERVICE USAGE

Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca



QUESTION F:

WHAT DO YOU THINK OF TCAT BUS SERVICE ALONG THE ROUTE 96 CORRIDOR?

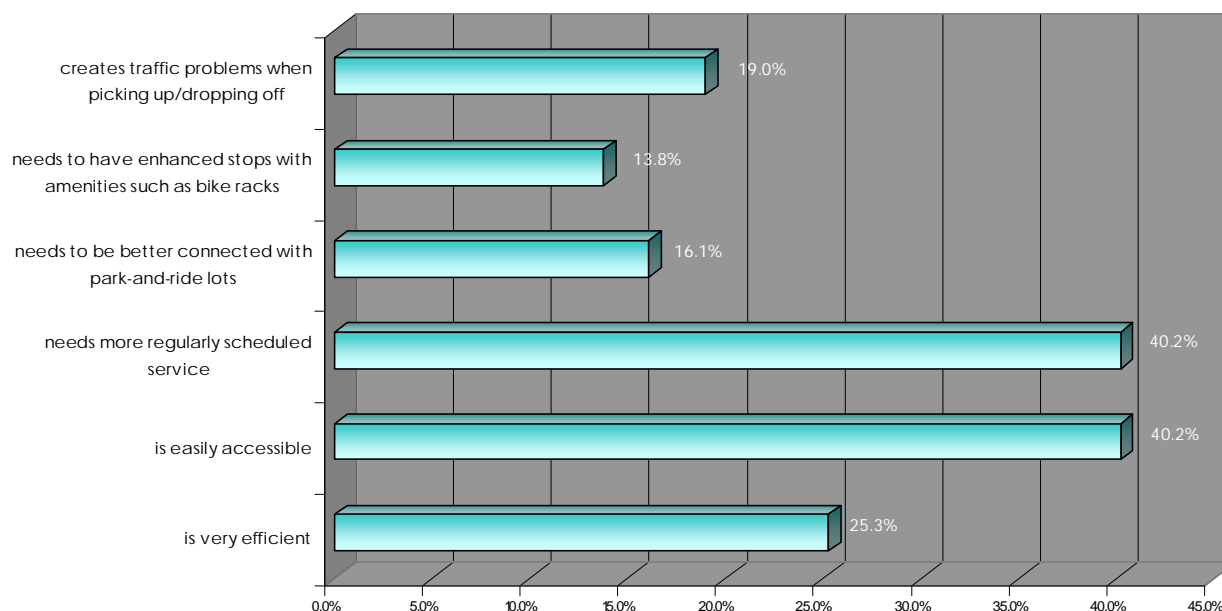
Respondents were asked to identify which of the following characteristics applied to TCAT bus service along the Route 96 corridor:

- Is very efficient;
- Is easily accessible;
- Needs more regularly scheduled service
- Needs to be better connected with park-and-ride lots;
- Needs to have enhanced stops with amenities such as bike racks; and
- Creates traffic problems when picking up/dropping off.

The two characteristics receiving the most (and same) number of responses were that bus services needs more regularly scheduled service (40.2 percent) and that bus service is easily accessible (40.2 percent). That the existing bus service is very efficient received the next highest number of responses (25.3 percent). It must be noted, however, that many of those respondents indicating that TCAT bus service is easily accessible or very efficient also indicated that they do not use this service. This indicates non-users have the perception that bus service is efficient, while those riding the bus have less of an inclination to make that statement.

FIGURE 9 – RATING OF TCAT BUS SERVICE

Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca



Reviewing results by the location of residence for each respondent revealed several interesting trends. First, respondents from the City of Ithaca indicated at a much lower rate that TCAT service creates traffic problems (9.7 percent) than did respondents from either the Town of Ulysses (20.7 percent) or the Town of Ithaca (21.2 percent).

Regarding accessibility and efficiency, only 29.0 percent of City of Ithaca respondents thought that TCAT service is easily accessible, compared to 51.7 percent and 36.5 percent of Town of Ulysses and Town of Ithaca respondents, respectively. Similarly, City of Ithaca respondents indicated at a much lower rate that TCAT service is very efficient (12.9 percent) when compared with respondents from the Town of Ulysses (37.9 percent) and the Town of Ithaca (21.2 percent).

#### 4.5. Safety and Traffic

The questions in this section of the survey focused on traffic safety and congestion along the Route 96 corridor.

##### QUESTION G:

INDICATE WHETHER YOU PERCEIVE SAFETY PROBLEMS ALONG THE CORRIDOR?

Corridor residents were asked to rate the following safety issues as being a serious problem, moderate problem, minor problem, or not a problem:

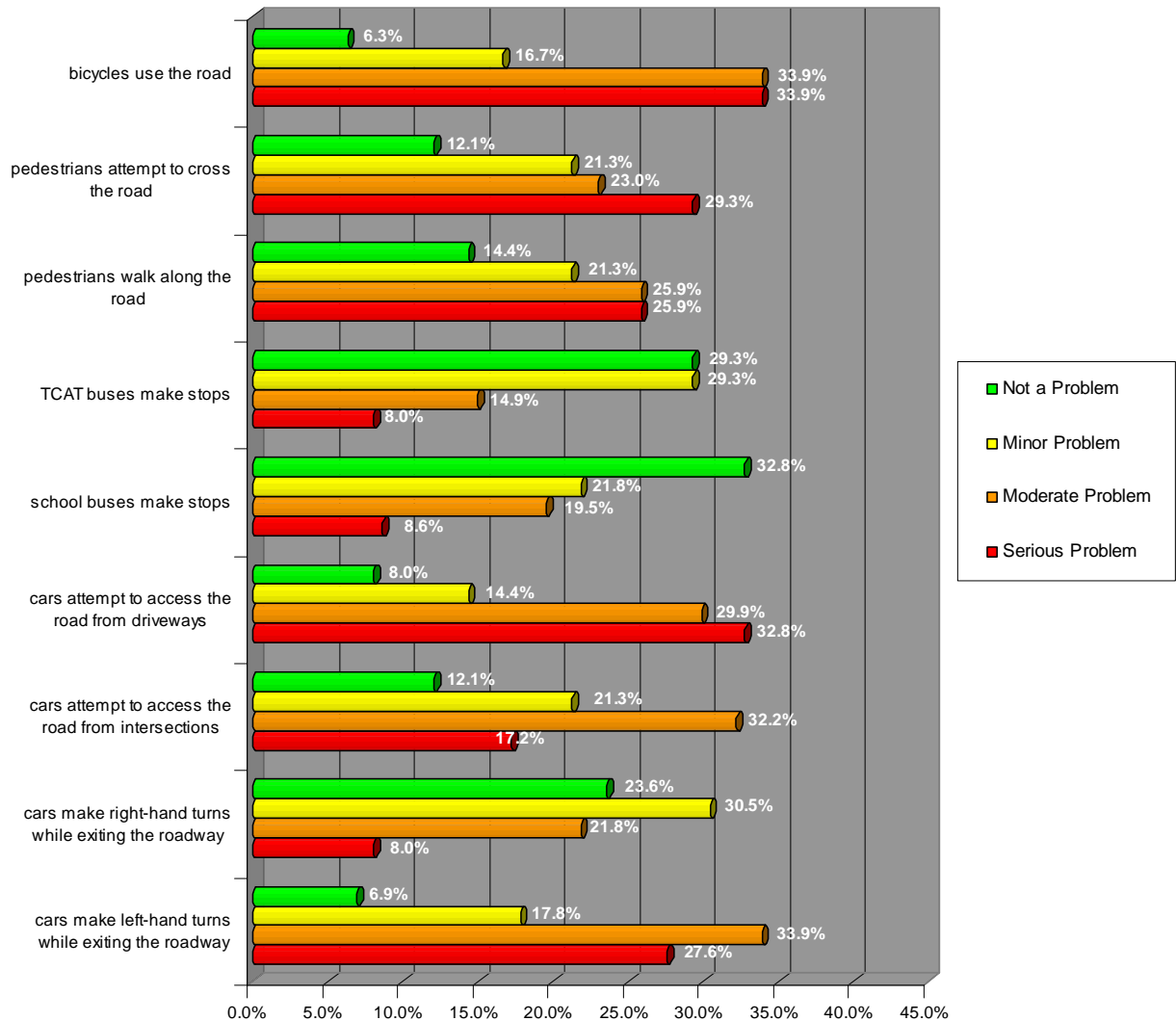
- Bicycles use the road;
- Pedestrians attempt to cross the road;
- Pedestrians walk along the road;
- TCAT buses make stops;
- School buses make stops;
- Cars attempt to access the road from driveways;
- Cars attempt to access the road from intersections
- Cars make right-hand turns while exiting the roadway; and
- Cars make left-hand turns while exiting the roadway.

Based on the results of the survey, the three most important safety and traffic problems along the Route 96 corridor are listed below (the combined percentage for each issue is noted after each issue and is derived from the number of respondents who identified the issue as a serious problem or a moderate problem).

1. Bicycles use the road (67.8 percent);
2. Cars attempt to access the road from driveways (62.6 percent); and
3. Cars make left hand turns while exiting the roadway (61.5 percent).

Figure 10 on the following page shows how each potential safety issue was rated by all respondents.

**FIGURE 10 – SAFETY ISSUES ALONG THE CORRIDOR**  
Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca



The problem of TCAT buses making stops received the lowest ranking in the serious problem or moderate problem categories (23.0 percent), as well as the highest ranking in the somewhat unimportant, not important, and not an issue categories (58.6 percent). School buses making stops along the corridor received the next lowest number of serious problem or moderate problem responses (28.2 percent)

Although “cars attempting to access the road from driveways” was rated the second most important issue when considering all respondents (62.6 percent), only 51.6 percent of City of Ithaca respondents and 51.7 percent of Town of Ulysses respondents considered this a serious or moderate problem. Additionally, only 45.2 percent of City of Ithaca respondents consider cars making left-hand turns while exiting the roadway to be a serious or moderate problem, compared with 61.5 percent of all respondents.

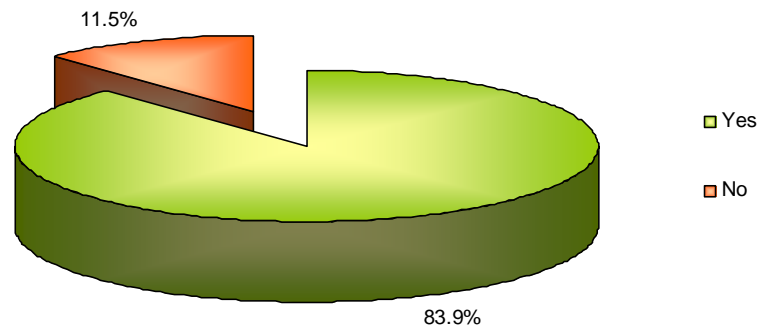
QUESTION H:

ARE THERE VEHICLE CONGESTION PROBLEMS ALONG THE CORRIDOR? IF YES, PLEASE IDENTIFY WHERE YOU ENCOUNTER CONGESTION AND WHAT TIME OF DAY.

Almost 84 percent of all respondents indicated that vehicle congestion problems exist along the Route 96 corridor. This rate did not vary considerably across the three communities.

FIGURE 11 – VEHICLE CONGESTION PROBLEMS

Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca



Corridor residents were also provided the opportunity to identify where along Route 96 they encounter congestion, as well as during what time of day (i.e., AM rush hour, PM rush hour, both AM and PM rush hours, and off-peak time). Figure 12 on the following page graphically identifies the results of that question.

Respondents indicated that congestion is most often encountered in the City of Ithaca during both the AM and PM rush hours (53.4 percent). Additionally, congestion during both the AM and PM rush hours in the Town of Ithaca and all along Route 96 is encountered by respondents (34.5 percent and 24.1 percent, respectively).

Both Jacksonville and Trumansburg received the fewest responses concerning whether congestion was encountered.

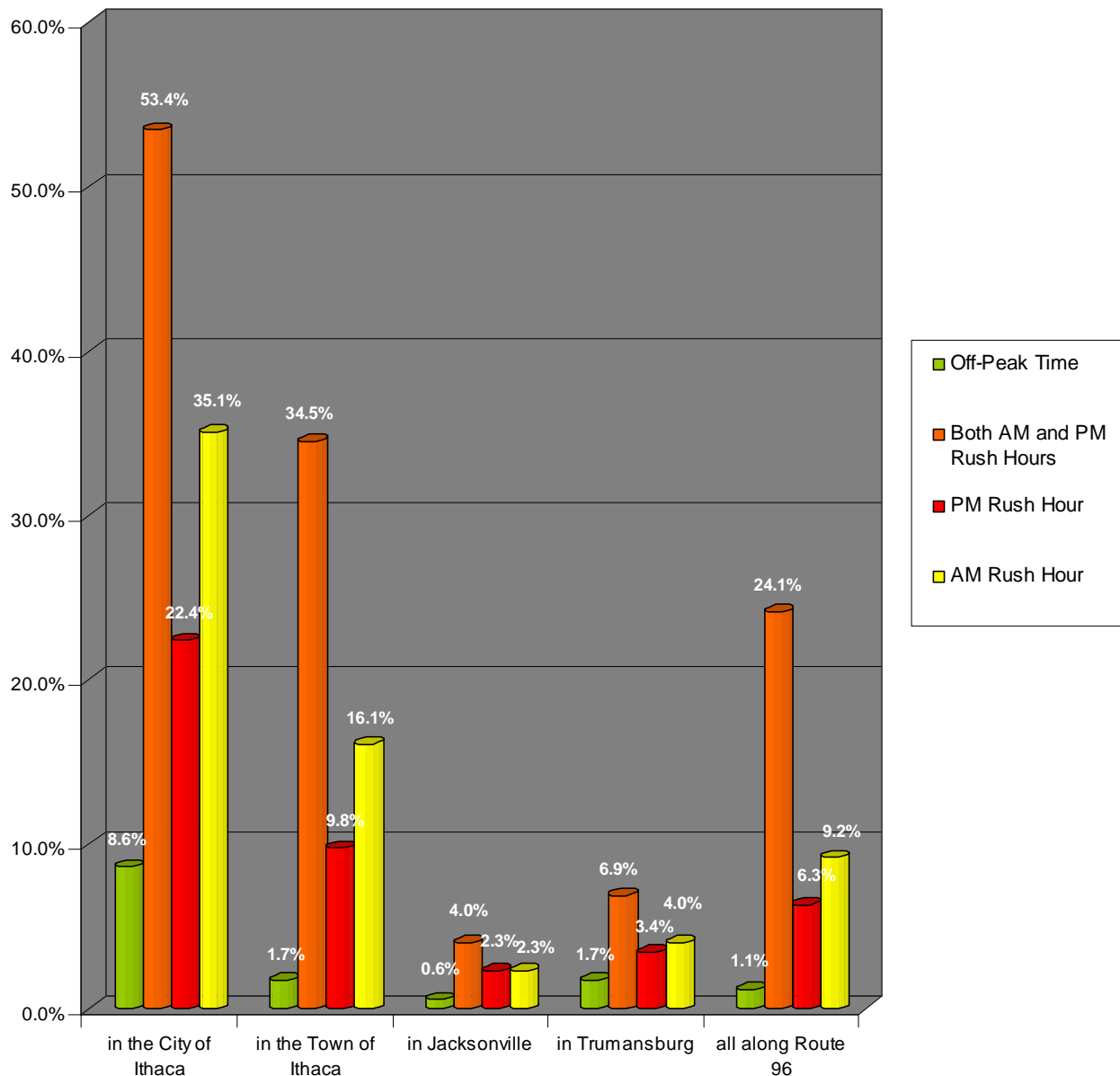
Comparing responses across the three communities yielded interesting results, specifically for the “both AM and PM rush hours” selection.

- Respondents from the City of Ithaca indicated that congestion occurs in the City of Ithaca at a higher rate (61.3 percent) than respondents from either the Town of Ulysses (46.6 percent) or from the Town of Ithaca (55.3 percent).
- Respondents from the Town of Ithaca indicated that congestion occurs in the Town of Ithaca at a higher rate (42.4 percent) than respondents from either the Town of Ulysses (29.3 percent) or from the City of Ithaca (22.6 percent).

- Respondents from the Town of Ulysses indicated that congestion occurs in the Town of Ulysses (i.e., Trumansburg and Jacksonville) at a higher rate (29.3 percent) than respondents from either the Town of Ithaca (2.4 percent) or from the City of Ithaca (0.0 percent).

FIGURE 12 – VEHICLE CONGESTION PROBLEMS

Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca





QUESTION I:

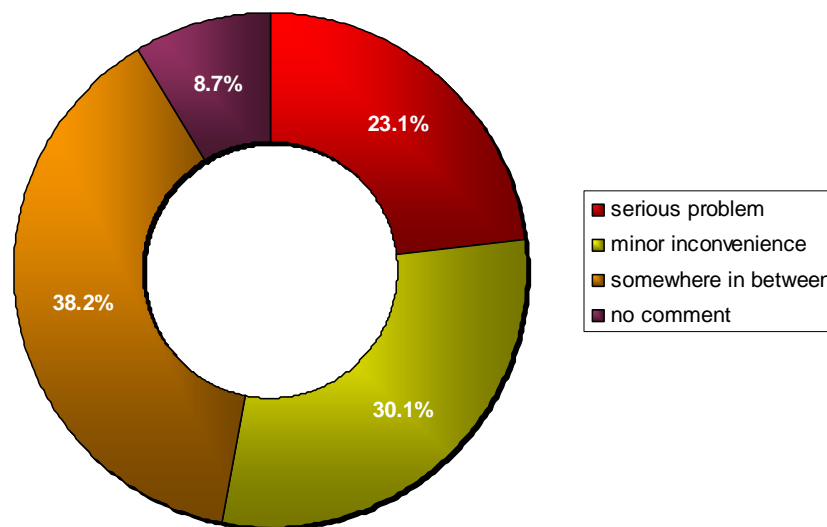
IF YOU DO EXPERIENCE CONGESTION TRAVELING ON ROUTE 96, HOW WOULD YOU RATE THIS PROBLEM?

In addition to identifying the time and location of congestion along the corridor, respondents were also asked to rate the level of congestion as a serious problem, minor inconvenience, or somewhere in between. Only 23 percent of the respondents identified congestion a serious problem, with 30 percent citing it as a minor inconvenience. The majority of responders (38.2%) stated traffic congestion was not a serious problem, nor a minor inconvenience, but somewhere in between.

The responses did not vary much by community, although respondents from the Town of Ulysses indicated that congestion is not a serious problem at a higher rate (77.6 percent) than did respondents from either the Town of Ithaca (63.1 percent) or the City of Ithaca (64.5 percent).

FIGURE 13 – LEVEL OF CONGESTION PROBLEMS

Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca

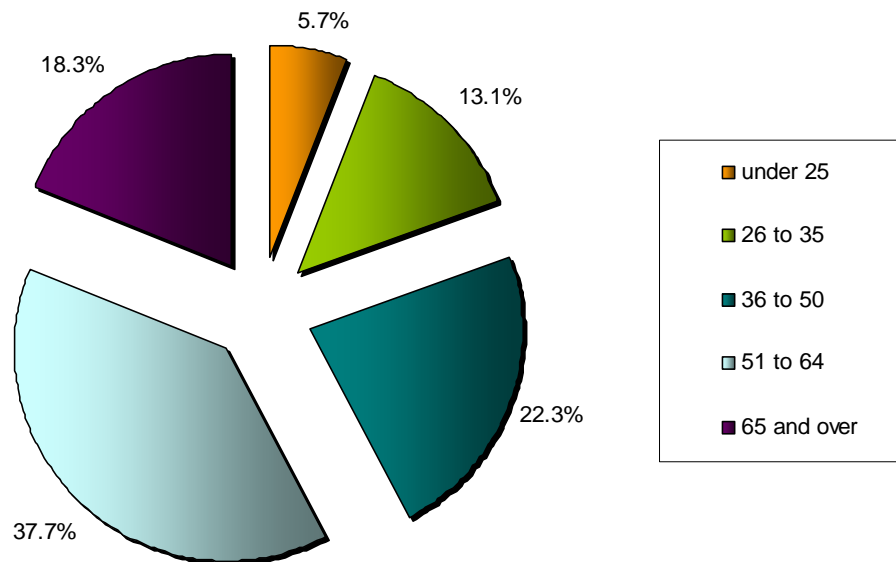


## 4.6. Respondent Information

The purpose of the questions in this section was to provide insight into the demographics of respondents; this information is useful when evaluating and considering the survey responses. More specifically, the survey asked residents to provide their location of residence (by municipality), length of residence, and age. A summary of the demographic profile of survey respondents is provided below.

The majority of respondents indicated that they were between the ages of 36 and 64 (60.0 percent), with those under the age of 36 comprising 18.6 percent of respondents and those over the age of 64 comprising 18.3 percent.

**FIGURE 14 – AGE BREAKDOWN OF SURVEY RESPONDERS**  
Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca

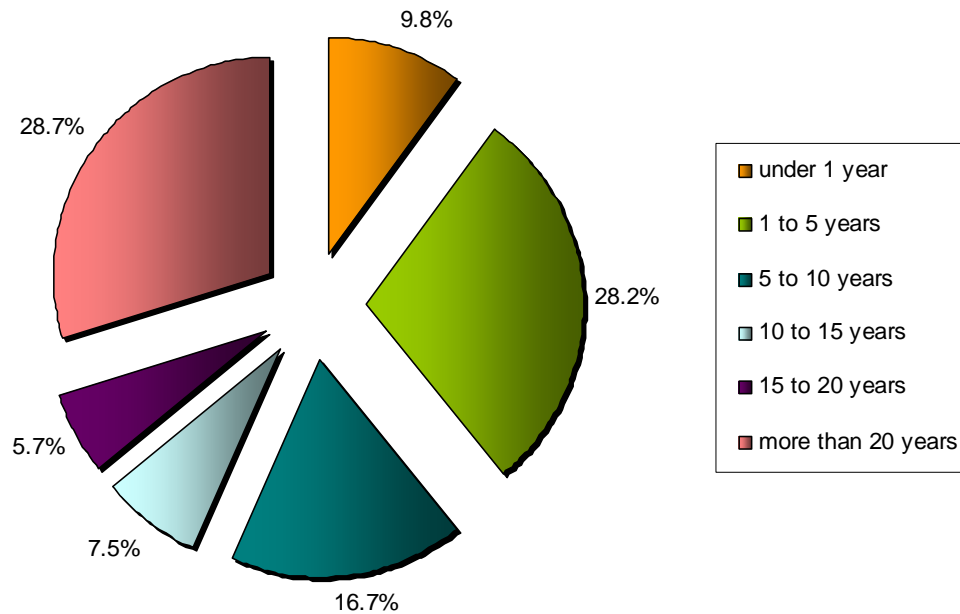


The City of Ithaca realized the largest number of respondents over the age of 65 at 27.3 percent, compared to 17.5 percent for the Town of Ulysses and 15.3 percent for the Town of Ithaca. Of additional note is the 26 to 35 age bracket – 18.8 percent of respondents from the Town of Ithaca comprise this bracket, whereas only 5.3 percent of Town of Ulysses respondents are between the age of 26 and 35. Approximately 12 percent of respondents from the City of Ithaca indicated that they are between the age of 26 and 35.

Respondents were also asked how long they have resided on the corridor. Figure 15 on the following page shows the breakdown of the results, with more than one quarter of the residents living on the corridor for over twenty years.

FIGURE 15 – LENGTH OF RESIDENCY

Route 96 Corridor: Town of Ulysses, Town of Ithaca, City of Ithaca



Interestingly, 38.0 percent of respondents have lived along the corridor for five years or less, while approximately one-third (34.4 percent) of all respondents indicated that they have lived on the corridor for more than 15 years. The significance of newcomers responding so strongly may represent the fact that the issues facing Route 96 traffic and growth are keenly felt even by those who have only resided for a short while on the Corridor. The large number of respondents who are long-term corridor residents give voice to the changes that have occurred over the past two decades.

Several differences arise when comparing community-specific responses. A large number of respondents (17.6%) from the Town of Ithaca have lived on the corridor less than 1 year, compared to 1.7 percent of Town of Ulysses residents and 3.2 percent of City of Ithaca respondents. Additionally, while approximately one-third of all respondents have resided along the corridor for more than 15 years, nearly half (46.5 percent) of respondent from the Town of Ulysses indicated a length of residency greater than 15 years, suggesting a stable population in this Town.

## 5.0 APPENDICES

The following Appendices are included in Technical Report #1:

Appendix 1 - Community Survey Write-In Responses

Appendix 2 - Community Survey Questionnaire

Appendix 3 - Windshield Survey Images

Appendix 4 - Focus Group Invitation

Appendix 5 – Focus Group Summaries

Appendix 6 – Stakeholder Interview Summaries

Appendix 7 - Corridor Performance Profiles, Route 96

Appendix 8 - Corridor Performance Profiles, Route 89

Appendix 9 - Traffic Analysis Zones

## APPENDIX 1 – COMMUNITY SURVEY WRITE-IN RESPONSES

The following responses were provided by survey respondents in Question J of the Residential Community Survey.

What would make the Route 96 corridor a better place to live?

### City of Ithaca Write-In Responses

- Limit further development.
- Not allow reduction along bridge for walking trail.
- Increase width of Cliff Street.
- Less truck traffic.
- Less speeding by all vehicles in general.
- Fewer large trucks.
- Sidewalks.
- Slower speeds in residential areas.
- Retail opportunities near Cayuga Medical Center.
- It is very difficult to take TCAT going towards Ithaca because on the west side of Cliff Street there are no regular stops and no bus shelters.
- It is increasingly difficult to exit my driveway safely. Maybe put in a few lights so there are breaks in traffic flow.
- Enforce speed limit regularly and truck noise limits. Stop big trucks from using shortcuts to avoid 81 and Thruway.
- Bike lanes.
- Cars driving slower.
- Crosswalks and perhaps speed bumps.
- Roadside gardens.
- Buffalo Street interesting – noise, traffic, train noise, fire trucks, ambulances.
- Manholes not level with street.
- City bus should have a stop sign to let people cross the street when they get off the bus.
- More sign posts saying “school crossing” or “slow down” or “hidden driveways” could be posted.
- Traffic seems to be increasing.
- Quit building housing developments.
- Lower property taxes.
- Cliff Street has been rehabilitated so that portion of Route 96 is a better place to live.
- It is imperative to no longer allow truck traffic on 96.
- Some homes have mailboxes across the street from their homes and have to cross the road to get their mail. It is unsafe and speed limits must be strictly enforced on 96 for all traffic.
- Trucks should be restricted to local deliveries only.
- Speed bumps needed upon entering the City to slow people down.
- Since sidewalk is only on one side of the street there needs to be pedestrian right of way signs and crosswalk areas so traffic stops.

- New railroad lights going east and west.
- An overpass would keep emergency vehicles and people needing help united at all times.
- If present booms cannot hold railroad lights we need to have stronger booms that can for the safety of all people.
- More police presence / remote radar detectors / speed traps.
- People speeding on bridge out of Ithaca is very serious.
- Speed control for cars and trucks.
- Highway is way over traveled – traffic needs to be diverted.
- More police issuing speeding tickets on Route 96 in City.
- Re-route trucks around Ithaca completely.
- Recognize that West Hill is a neighborhood, not a mass of formless sprawl.
- Park and ride lots are not a traffic solution for people living in the City.
- The busses are efficient. Run more of them.
- Don't suggest a one size fits all solution. The lack of alternatives is the enemy, not personal cars.
- Road would be nicer if homes were better cared for and litter was picked up.
- 18-wheeler should use alternative routes. Trucks damage the roads.
- No huge tractor trailers – they make our windows rattle. Bigger trucks also knock over mailboxes.
- Speed limit from the octopus to the hospital is rarely enforced.
- Need to do something about the huge increase in truck traffic. It has hurt the quality of life and value of homes.
- West Hill is viewed by the City as the other side of the tracks. All low income developments are going here. Thousands new residents and cars are going through once quiet neighborhoods. Does Ithaca need new housing with all the unoccupied housing it already has? It is really discouraging.
- TCAT busses are overscheduled and underused.
- Why not use smaller busses like GADABOUTS?
- Closing a lane on bridge for Phase II of the trail would be a disaster and impacts properties along the inlet. Redesign the trail or drop it entirely.
- The construction this fall was inconvenient but made getting in and out of home much easier.
- Anything to reduce the volume of traffic is helpful but that just makes it someone else's problem.

What would make the Route 96 corridor a better place to live?

Town of Ithaca Write-In Responses

- Fewer trucks.
- Slower speeds.
- Drivers following the rules of the road.
- Another bridge accessing West Hill and hospital.
- Trains go by other than at rush hour.
- Less traffic though I know there is not much that can be done about that.
- A sidewalk from hospital to downtown. It is now dangerous to walk along the road.
- Fewer large trucks. Increased traffic has caused cracks in our ceilings and walls.
- Widen the road if possible to make turning off corridor easier. Also have green arrow at lighted intersections.
- Two lanes past Trumansburg in some of those outskirt towns. Many people travel way less than 55 MPH.
- Do not allow trains to pass through town during rush hours. Traffic backs up in both directions.
- Create two outbound and inbound lanes over bridge at inlet. Turning lane into Cass Park is not necessary.
- Traffic light at Meadow and Clinton should be green longer.
- Add sidewalks to walk to town and being able to ride bike on walks instead of shoulder (which is dangerous).
- I see a lot of bikers riding down Route 96 and it would be great if a sidewalk was added.
- More TCAT drivers coming up to Trumansburg later at night.
- Grocery store – nothing between downtown and Trumansburg. There are at least 100 people without vehicles and it is hard to transport items on TCAT.
- People need to be nicer to each other, get up earlier, and leave plenty of time for travel.
- Install more traffic lights?
- Proper sidewalks.
- Street lights at areas that are dark where people are walking.
- Areas to pull over when there are emergency vehicles that need to pass.
- Bike lane.
- Town speed limit should be lowered to 40 MPH to make transition to City (30 MPH) easier.
- Say no to those mega-housing projects being planned for in Ithaca.
- Two lanes each way at least to Cayuga Medical Center.
- 24-hour TCAT service.
- Pedestrian and bicycle lanes from Ithaca to Trumansburg.
- Retail from Ithaca to hospital.
- Divert landfill trucking.
- End the siren blowing when ambulances exit hospital.
- Permanently fix the pothole problems.
- Buy properties on Cliff Street and widen road with turn lanes.
- More lanes coming down into Ithaca.

- One lane coming up the hill.
- Traffic is horrible at Taughannock intersection.
- Widen the road for bicycles and pedestrians.
- Congestion sometimes adds 15 minutes to my 10 minute commute.
- Less noise.
- Decreased traffic on 96!
- Better and more access to downtown.
- Eliminate truck traffic.
- Bike lanes and sidewalks.
- Improved TCAT service.
- Reduced speed limits.
- More frequent bus service. I need to be able to get my medicine and to get to the supermarket.
- Expanded roadways – there is already congestion in City and more development is proposed.
- I enjoy the rural character of West Hill and proximity to City.
- Right angle intersection at Hayts and Route 96 / Dubois and 96 – traffic lights needed.
- Preserving more of the open spaces.
- Lower speed limits or better enforcement especially below hospital.
- Provide adequate turn lanes, etc. where development has already occurred.
- Better, longer-running bus service.
- Control increasing light pollution.
- Dangerous to enter and exit driveways due to people passing on the shoulder near my house.
- Slower speeds in Town of Ithaca.
- Advocate for easier access from 96 to both 79 and 89.
- Bike/pedestrian lanes to make non-vehicular commuting safer.
- Park and ride lots to encourage bus and TCAT commuting.
- A few more intersections with lights/crosswalks to increase safety.
- Actively discourage increase in number of cars and speed by increasing low carbon emission alternatives.
- Less traffic.
- Less truck traffic.
- Lower speed limit from hospital into Town.
- In the spring, cleaning the road so its safe for other modes of traveling.
- Less empty busses – we do not need more public transportation on this road.
- Big walls to really keep the noise down.
- Channel people from Rochester onto 96, not 89.
- Limit residential expansion in favor of agricultural uses.
- Sidewalks.
- Heavily enforced speed limits.
- No trucks.
- No bicycles.
- No tailgating – ticket these people.



- Mailboxes on both sides of the road.
- Truck traffic rerouted. Especially large garbage trucks.
- Turning lanes for left turns onto side roads.
- Enforcement of speed limits and no passing zones.
- A shared path from museum down to Cass Park / Black Diamond Trail.
- Route 96/89 intersection needs to be analyzed.
- Bottom of Cliff heading out of town.
- Less traffic and people following the speed limit.
- More traffic enforcement.
- Speeding is a major problem near the hospital.
- Sidewalks would be nice but its too far to walk to anywhere we would go on a regular basis.
- Sidewalk.
- More regular bus service and stops.
- Regular access to TCAT bus with hours to accommodate more people. I work at Cornell and would love this option is more was available in the evening.
- Bike paths.
- People adhering to the speed limit.
- More and better enforcement of speed limits.
- Bicycle lane.
- Lower speed limit.
- Four lanes in City.
- Improved intersection at Buffalo and Taughannock Boulevard. Left turn only in both directions.
- Left turn only at Pete's.
- Left turn at Bundy Road.
- Left turn only lanes at Cayuga Medical Center.
- Left turn only at Perry City Road in both directions.
- More polite drivers.
- Old time residents think we have a traffic problem – not compared to other cities.
- In favor of road proposed between 96 and 89.
- Like University Avenue, there is no way to make 96 better.
- No more housing complexes.
- Strict enforcement of speeders.
- Eliminate jake braking.
- Rid area of Seneca Meadows garbage.
- Coordinate trains so they avoid rush hour traffic.
- Expand Cliff Street bridge over flood control channel.
- Traffic light at 96/Bundy or left lane added.
- Reduce speeds in residential sections.
- No passing zones in residential sections.
- Enforce speed limits.
- Enforce noise limits.
- Sidewalks connection Cliff Street to Cayuga Medical Center.
- Slow cars approaching the City of Ithaca.

- I catch bus at Bundy and it is very unpleasant to stand there and wait. It feels dangerous and on rainy days bus-waiters get soaked from passing cars. Why I only take the bus occasionally.
- Traffic has exploded in last couple of years. A negative in terms on quality of life.
- More lights- difficult to see people at night.
- Sidewalks.
- Places for busses to pull over when picking up and dropping off.
- More frequent bus service.
- Buffalo Street needs repairs desperately.
- Sidewalks, bike path, and street lights.
- Better way to get from driveways and side streets.
- Quieter – fewer sirens and less truck traffic.
- Access from Route 96 from Candlewyck Apartments is dangerous in winter.
- No more construction please.
- Busses until 9 PM.
- Wider lanes, especially through downtown.
- Parking for commuters.
- Light at Bundy Road.
- Safe biking / walking lanes.
- A crackdown on aggressive driving especially people on Buffalo.
- Less traffic.
- No trucks.
- Left turn only land at the Long View and at Bundy Road.
- Less truck traffic.
- No air brake zone.
- Enforcement of speed zones.
- Enforcement of noise regulations.
- Possibly more stop lights to slow traffic.
- Bus stops with pull out lanes and weather shelter for riders.
- Truck traffic is largest problem.
- Bike lanes.
- More lights.
- No passing zone.
- Perfectly happy but hope the assessments don't keep going up and up so we can continue to afford to live here.

What would make the Route 96 corridor a better place to live?

Town of Ulysses Write-In Responses

- Places for people to walk.
- Turning lanes at the hospital and housing intersection and professional building and Lakeside Nursing Home.
- I find living on 96 very convenient in every way. Because of traffic road is always clear in the winter snow. Maybe speeds could be lowered from 55 to 50.
- Turning lane at hospital for new homes across Route 96.
- No truck traffic.
- No urban sprawl with businesses being built along the road.
- Divert or reduce truck traffic.
- A sign is needed to identify Agard Road intersection.
- Well planned development that is concentrated is preferred over sprawl.
- Better, more frequent, bus service. Especially evenings for teen who work at night on second shift.
- If TCAT could connect to TFSP summer concerts and Hangar Theatre.
- More aggressive enforcement of dangerous behavior.
- Remove the trash trucks.
- Sharply curtail commercial development and sprawl. Meadow Street in Ithaca – problems galore.
- Perry City Road intersection is very dangerous. Some sort of light should be installed.
- Garbage trucks litter my lawn with debris.
- Ridiculous stop for pedestrian cones in middle of state highway. People think they can just walk out in traffic because of the little cone. One of the dumbest things NYS has ever done.
- More bicycle friendly.
- Fewer trucks.
- Limit truck traffic – high level of noise.
- Lower speed limits from Jacksonville to Trumansburg.
- Have 18-wheelers use the Thruway.
- Re-route garbage trucks which damage the road.
- Reduce traffic noise, it has increased every year.
- Less use of salt, greater use of alternatives like sand. Salt is damaging plants and trees.
- Sidewalks and bike lanes.
- Bike route.
- Slower speed limit to Trumansburg.
- More TCAT busses.
- Walk lanes in Jacksonville.
- No parking along 96 in the hamlet.
- Garbage trucks come from out of County.
- Take trash trucks off route.
- Trucks impact B&B; affect customers comfort.
- If truck traffic is not addressed we will be looking to sell within a year.

- Lower speed limit.
- Do not widen.
- Less or no trucks.
- Current train schedule is ridiculous. Always the wrong times.
- Traffic lights not synchronized. Constant stop and go and delays.
- Need better access in and out of Cayuga Medical Center, Hayts Road, West Hill Apartments and Professional Building.
- Impound all cars speeding through Jacksonville.
- Lower speed limit in Jacksonville.
- Safer turn offs for Kinney and Shur-Save.
- Better signage.
- Reduce speed.
- Eliminate truck traffic.
- Stop light at 4-way intersections.
- Less noise from big trucks.
- Smell from garbage trucks.
- Speeding in Jacksonville.
- People cause most of the problems along Route 96.
- Widen parking area along Route 96. from city limits to Perry City Road.
- Speed limit should be 45 to Jacksonville.
- Difficult to turn in driveways with so much traffic.
- More police presence to prevent speeding and illegal vehicle traffic (off-road).
- Better handling of traffic in downtown Ithaca at 96 and 89 light. Especially bad at Buffalo Street and 13 North.
- There needs to be more police vehicles patrolling Route 96 for speeding vehicles. Very difficult to cross the road when getting on or off TCAT bus.
- Ban bicycles.
- Teach pedestrians how to walk.
- Widen the roadway.
- The highway department should clean the ditches, cut grass – it is always a mess.
- Bigger convenience store with more food needed in Jacksonville.
- Bike paths.
- Sections of sidewalk, especially from hospital to City.
- Better monitoring of speeders.
- Better lighting from City up to just past hospital.
- Maybe lights at some places (intersection).
- Better lighting.
- Wider shoulders for bikes/people.
- Lower speeds, more cops.
- More farmland for serenity and beauty.
- Slower traffic.
- Less traffic.
- Lower TCAT fares. Variable fares depending on distance traveled.
- Limit tractor trailers to local delivery only.

- Heavy truck traffic is breaking up the roads.
- Cleaner ditches.
- Better quality in development – materials and architecture.
- Better property maintenance.
- Maintain rural appearance along highway with higher density development set off the highway along local roads.
- Much less heavy truck traffic and pedestrian-friendly roadway.
- Lets be realistic; 96 is a major highway. If one choose to live on it, then one needs to accept the pitfalls. Travel is, for the most part, easy.
- Newer and nicer properties further away from Route 96 but with convenient access.
- Slower speed limit – 45 MPH.
- More vegetation.
- No more signs.
- Less truck traffic.
- Wider shoulders in spots for pedestrians and bikes.
- Ticket loud motorcycles.
- Cut down fast food and garbage bag dumping.
- Got a breather when the road was closed for improvement last fall.
- People who have mailboxes across the road have to sometimes wait 10 minutes to cross and get mail.
- Should be no more than 45 MPH all the way to Jacksonville.
- Difficult to turn in drives with so much traffic.
- Reroute 89 from Jacksonville.
- I'm not sure the road is the problem but it is the way people use it in the past couple years. They do not want to stop for anything or anyone. Cell phone distractions. Frequent speeding. Passing across double lines.
- Drivers are always in a rush.
- Better monitoring of speed limits.
- Traffic noise from trucks and loud car stereos.
- Plant more trees.
- Better dead animal pick-up.
- Left turn lanes at high traffic areas.
- Pull off areas for TCAT.
- Traffic management by T-burg schools at start and end times.

## APPENDIX 2 – COMMUNITY SURVEY QUESTIONNAIRE

The following pages include a copy of the Residential Community Survey that was sent to all residences along the corridor.

## APPENDIX 3 – WINDSHIELD SURVEY IMAGES

A windshield survey of the corridor was conducted on Monday, March 17, 2008. The following images and notes were taken during the windshield survey.

## APPENDIX 4 – FOCUS GROUP MEETING INVITATION

The focus group invitation was sent to all commercial, business, and institutional property owners along the corridor. Focus groups are scheduled for April 1<sup>st</sup> and 3<sup>rd</sup> and summaries of discussions from these meetings will be provided to the committee at the next regularly scheduled committee meeting.

Dear Route 96 Business Owner,

You are cordially invited to attend a Focus Group meeting of business, institution, and commercial property owners along Route 96 in the Town of Ulysses and Town and City of Ithaca. The focus group meeting is being held in order to obtain feedback regarding the current state of Route 96 within these communities. Tompkins County, the City of Ithaca, the Town of Ithaca, the Town of Ulysses, the Ithaca-Tompkins County Transportation Council, and the Tompkins Consolidated Area Transit have teamed together to develop the Route 96 Corridor Management Study.

### **Route 96 Corridor Management Study:**

The Study will help to define an appropriate approach to anticipated growth along the Route 96 corridor within the Town of Ulysses and the Town and City of Ithaca. The Study will specifically look at a nodal versus sprawling development pattern, access management, enhanced transit services, the incorporation of transportation system improvements, and aesthetic roadway enhancements. The final product will focus on protecting livability along the corridor with specific recommendations for land use changes and transportation enhancements that will serve to reduce the impacts of traffic within the study area. For additional information on the Study please visit the Tompkins County Planning Department website at <http://www.tompkins-co.org/planning/> or call 607-274-5560

### **Focus Group Details:**

Two identical focus group sessions are being offered at different times and locations in order to provide an option for business owners who may be unable to attend one of the sessions. You may attend either session.

	<b>Focus Group Session #1</b>	<b>Focus Group Session #2</b>
When:	Tuesday, April 1, 2008	Thursday, April 3, 2008
Where :	Tompkins County Health Building Biggs B, Rice Conference Room 401 Dates Drive (access via hospital)	Jacksonville Methodist Church 1871 Trumansburg Road
Time:	8:30 – 9:30 AM	9:00 – 10:00 AM

### **Focus Group Purpose:**

The purpose of the focus group session is to identify the opportunities, constraints, and issues associated with owning and maintaining a business on Route 96. Your input will help us to better understand the specific concerns related to conducting a business on the corridor.

### **Other Public Outreach Opportunities:**

In addition to the focus group meeting, other opportunities will be provided for public input and feedback. A Public Informational Meeting has been scheduled for April 23<sup>rd</sup>, 2008 at 6:30 PM at the Paleontological Research Institution (PRI) at 1259 Trumansburg Road. At this meeting attendees will have the opportunity to learn more about the planning process, preliminary findings including responses to the residential survey, and will be able to provide comments and ask questions of the consultant team.

Your participation in this process is important to ensure that the direction of the Study reflects the needs and concerns of area business owners and operators.

**Please RSVP for either session by March 28, 2008 to  
Leslie Schill, Senior Planner, Tompkins County Planning Dept. at 607-274-5560**



## APPENDIX 5 – FOCUS GROUP MEETING SUMMARIES

### FOCUS GROUP MEETING #1

The first of two stakeholder meetings with business and institutional representatives on the corridor took place on the Cayuga Medical Center campus on April 1, 2008. Approximately six community and business representatives attended and offered the following information and feedback related to owning or working for a business or institution along the corridor. Approximately 80 invitations, an example of which is included in Appendix 4, were distributed prior to the stakeholder meetings.

#### Meeting Attendees:

1. Leslie Schill, Tompkins County Planning
2. Kimberly Baptiste, Bergmann Associates
3. Beth Tetreault, Finger Lakes School of Massage
4. Kirby Allen, Subway
5. Cynthia Yahn, Aeon Development
6. Charles Schlough, The CaLanCo, LLC
7. Stan Beames, Namaste Montessori School
8. Tim Maguire, Maguire Automotive

#### Summary of Comments:

#### STRENGTHS / BENEFITS OF LOCATION ON ROUTE 96

- Volume of traffic
- Easy to give directions
- Access
- Visibility
- Only national franchise between Waterloo and Ithaca (Subway)
- Country setting, quiet and also close to downtown
- Close to Trumansburg where rents are cheaper
- Location, location, location
- South of Trumansburg there is a great amount of traffic generated

#### WEAKNESSES / ISSUES OF LOCATION OF ROUTE 96

- Volume of traffic
- Speed of traffic
- Number of accidents
- Too many access drives
- Hard to get in and out of driveways
- Irregular speed limits

- No land use planning in place
- No inter-municipal planning (historically)
- Inconsistent zoning
- Ithaca has shortage of leasable space so people move onto Route 96
- Geography
- Very little housing available
- Concerned study will seek to eliminate businesses on Route 96

#### OPPORTUNITIES / WHAT CAN BE DONE TO MAKE THINGS BETTER

- Nodal Development
- Better planning
- Need for inter-municipal cooperation
- Reduced speed limits
- Widen roads for turn lanes
- Improve zoning
- More turn lanes near high use areas
- Build bypass to get people in and out of City more efficiently (City does not do long-term planning)
- Understanding traffic impacts quality-of-life
- Rebuild shoulders
- Public transportation – Transportation hub
- Public transportation needs to be coordinated with new development
- More public transportation options outside of City
- More park and rides

## FOCUS GROUP MEETING #2

A second business and institutional stakeholder meeting was held on April 3, 2008 at the Jacksonville Methodist Church. Approximately fourteen community and business representatives attended and offered the following information and feedback related to owning or working for a business or institution along the corridor.

### Meeting Attendees:

1. Leslie Schill, Tompkins County Planning
2. Kimberly Baptiste, Bergmann Associates
3. Dick Coogan, Technical Review Committee, Route 96 Study
4. Dana Stafford, Regional Access
5. Gary VanHouten, Natural Beginning
6. Mike Cirri, Trumansburg Mini Golf
7. Jerry Reynolds, Trumansburg Fair
8. Cosimo Tangorra, Trumansburg Central School District
9. Fran Maguire, Maguire Chevrolet
10. Chaw Chang, Stick & Stone Farm
11. Michelle Vogtman, Williams Insurance
12. Richard Berggren
13. Jim Seafuse, Shur Save
14. Roger McOmber, Jacksonville Church
15. Carl Butterfield, Jacksonville Church
16. Lorna Close, Close Hall

### Summary of Comments:

#### STRENGTHS / BENEFITS OF LOCATION ON ROUTE 96

- Lots of traffic
- Location, location, location
- Access to Ithaca and areas north
- Concentration of uses
- Water and gas
- Access
- Route 96 is well known
- Tourist traffic
- Links to wine trail
- Visibility
- Taughannock Falls State Park
- Provides foot traffic via vehicles
- TCAT
- Less accidents on north end because speed limits have finally been reduced to 45

## WEAKNESSES / ISSUES OF LOCATION OF ROUTE 96

- Traffic flow (AM and PM peaks)
- Visibility
- High speeds
- People travel to destinations at either end, don't want to stop in between
- Driveway locations – DOT mandated
- No access on 96 for some businesses
- Road not leveled at some intersections
- Accidents
- No water
- Lack of commercially zoned land
- Commercial land is scattered
- Truck traffic
- Conflicts between road shoulders – vehicular and pedestrian use
- Bike lanes – particularly on Cliff Street
- No connection between 96 and 89
- 79 should not be ignored

## OPPORTUNITIES / WHAT CAN BE DONE TO MAKE THINGS BETTER

- Reconfigure Krums Corner intersection
- Turn lanes
- More park and rides
- Expand water to promote more business development
- Nodal development
- Street lighting
- Re-evaluate historic situations – such as, road striping
- More stops in nodes
- Enforcement of speed limits
- Nodal development will be good for school district, and for the community as a whole
- Families want stronger sense of community within walking distance
- School feels facilities are over-used and would like other facilities/parks to be utilized more – nodal development could further that
- Access to Trumansburg must remain convenient
- Make enough commercial zoning available
- Better signage
- Keep Krums Corner Light Industrial
- Ithaca Bridge should be two lanes going south instead of having a turn lane

## THREATS

- Development pressure on ag land

- Affordability
- People are afraid of uncontrolled growth, as well as over-regulation
- Lack of community education
- High taxes in County
- Regulations in Town of Ulysses

## APPENDIX 6 – STAKEHOLDER MEETING SUMMARIES

### TCAT STAKEHOLDER MEETING

On April 3, 2008 Bergmann Associates participated in a stakeholder meeting with TCAT in an effort to learn more about their current operations along the corridor, as well as any proposed changes that may be planned for the future. Below is a summary of the discussion undertaken at this meeting.

#### Meeting Attendees:

1. Kimberly Baptiste, Bergmann Associates
2. Nicole Tedesco, TCAT, Service and Operations Analyst
3. Mike McLellan, TCAT, Passenger Amenities
4. Nancy Oltz, TCAT, Manager of Operations and Maintenance

#### Summary of Comments:

##### GENERAL

- Exciting time for TCAT – evolving from small to dynamic organization
- Have added specialty staff, including an analyst and others with targeted roles, TCAT has not been historically organized this way – this will help them improve service and delivery

##### FLEET

- Fleet currently consists of 44 diesel busses and 6 hybrids (hybrids do not create a cost savings for TCAT at this time due to the additional up-front costs for purchasing them...this may change as gas continues to increase)

##### SERVICE

- Lack of shoulders from City line to hospital makes it hard to discharge people
- Service is flag and demand everywhere outside downtown
- Ditches in front of some uses, such as Candlewyck Apartments, makes it uncomfortable for people waiting for a bus
- 4' shoulders in northern study area are adequate for pulling over and picking up / dropping off
- There have been very few accidents involving TCAT busses
- TCAT has not been able to establish a justification for increasing service to Trumansburg, whether more trips or later trips
- They try to establish need and interest through on-bus surveys (my note: on-bus surveys only may not reach the audience that would use TCAT if additional service was provided – this form of surveying seems inadequate)

- TCAT will not be pursuing any service changes on Routes 19 and 21 in the immediate future
- Currently does not offer any express service – new busses would need to be acquired
- Looking hard at offering express routes – trials would be done to determine locations for where these would be used – possibility of express service on West End, to hospital, though to Trumansburg not likely

#### RIDERSHIP

- Ridership has declined slightly on Routes 19 and 21
- Heavily used in AM and PM peaks by commuters from Trumansburg
- Nodal development would help to justify increases to current schedule

#### PARK AND RIDE

- Trumansburg Park and Ride is inadequate and taken over during the summer by Trumansburg Farmers Market on some days
- Town wants to relocate Park and Ride next to DPW – this is not acceptable to users who have contacted TCAT with complaints
- Town and Village currently working on an alternative solution
- Have discussed a park and ride at hospital but never in Jacksonville

#### ISSUES

- Overall do not run into any traffic or intersection problems or issues along the corridor – they have no complaints about traffic flow
- Schedules consistently disrupted by “octopus” area in City – this is a serious problem for TCAT – they have difficulty maintaining schedules – especially from 3:30 to 4:00 when school busses are out
- Universal access is a concern given the lack of bus stops and less than perfect “pick up” conditions along portions of road

#### IMPROVEMENTS

- Would like to have more safe places for people to wait and discharge (particularly elderly)
- Currently working on Transit Development Plan – no major impacts to these routes – relied heavily on on-board bus surveys

## CAYUGA MEDICAL CENTER STAKEHOLDER MEETING

On April 21, 2008 Bergmann Associates, joined by members of the Technical Review Committee, participated in a stakeholder meeting with representatives from Cayuga Medical Center. The goal of the meeting was to establish a working relationship with the Medical Center and engage them in the overall planning process. The purpose of the meeting was to learn more about employment at the hospital, operations, planned projects that may impact the corridor, to gather their feedback on nodal development opportunities, and for the Medical Center to identify specific issues and areas of concern related to the corridor, specific to access, traffic, and hospital operations. The following is a summary of the meeting.

### Meeting Attendees:

1. Kimberly Baptiste, Bergmann Associates
2. Leslie Schill, Tompkins County Planning Department
3. Jon Kanter, Town of Ithaca Planning Department
4. John Rudd, CFO and Senior Vice President, Cayuga Medical Center
5. Lou LoVecchio, Assistant VP and Facilities Manager, Cayuga Medical Center
6. Lauren Johnson, Strategic Planning Analyst, Cayuga Medical Center

### Questions / Discussion Areas

#### EMPLOYMENT

- Of the current 1,000 employees, approximately 900 are on the main campus on Route 96
- Assume growth of about 200 employees in next 10+ years (may not all be at main campus)
- Employee growth will be directly related to the growth of the County as a whole

#### SCHEDULING

- Primary shifts are 7 AM – 3 PM / 3 PM – 11 PM / 11 PM – 7 AM
- Admin shifts are 8 AM – 4 PM
- Clinical shifts are 7 AM – 7 PM

#### OPERATIONS

- Goal is to become a more regional hospital
- Affiliated with Roswell Park and Rochester Heart Institute / Cleveland Clinic
- Seeking to strengthen cardiology program, which would help strengthen their role as a regional hospital
- High-profile affiliations do not tend to be major volume drivers
- Primary service area is Tompkins County and some adjacent areas, as well
- Secondary service areas include Geneva, Cortland, and Watkins Glen



## PARKING

- Bergmann to obtain map from Lou that shows current number of spaces
- Informal park and ride was an issue – hospital discourages park and ride users
- Do not have excess parking capacity
- Hospital would have some concern about dedicating their land to a park and ride
- Hospital would be supportive of a park and ride in the node

## CAPITAL PROJECTS

- Operating room expansion, renovation, and construction – 2009/2010
- Internal renovations planned for next 3 years
- No significant projects currently planned beyond 2010
- Biggs A property – took down former hospital building due to mold and asbestos, expanded parking
- Biggs B –Hospital would be interested in that property when County moves out.

## HOUSING / NODAL DEVELOPMENT

- Contact Alan to find out number of employees who live at the Overlook
- CMC has no plans to get in the housing business
- Affordable housing is an issue – employees travel from 50+ different municipalities to get to the hospital
- Hospital sees benefits to have more housing and services nearby
- Holochuck Homes would fill another need for employee housing (different types of homes than Overlook, not low-mod income)
- Would be willing to promote pedestrian and bicycle connections to surrounding developments
- Additional services in this area would be a positive
- Would like to see connections to Black Diamond Trail promoted (

## ISSUES

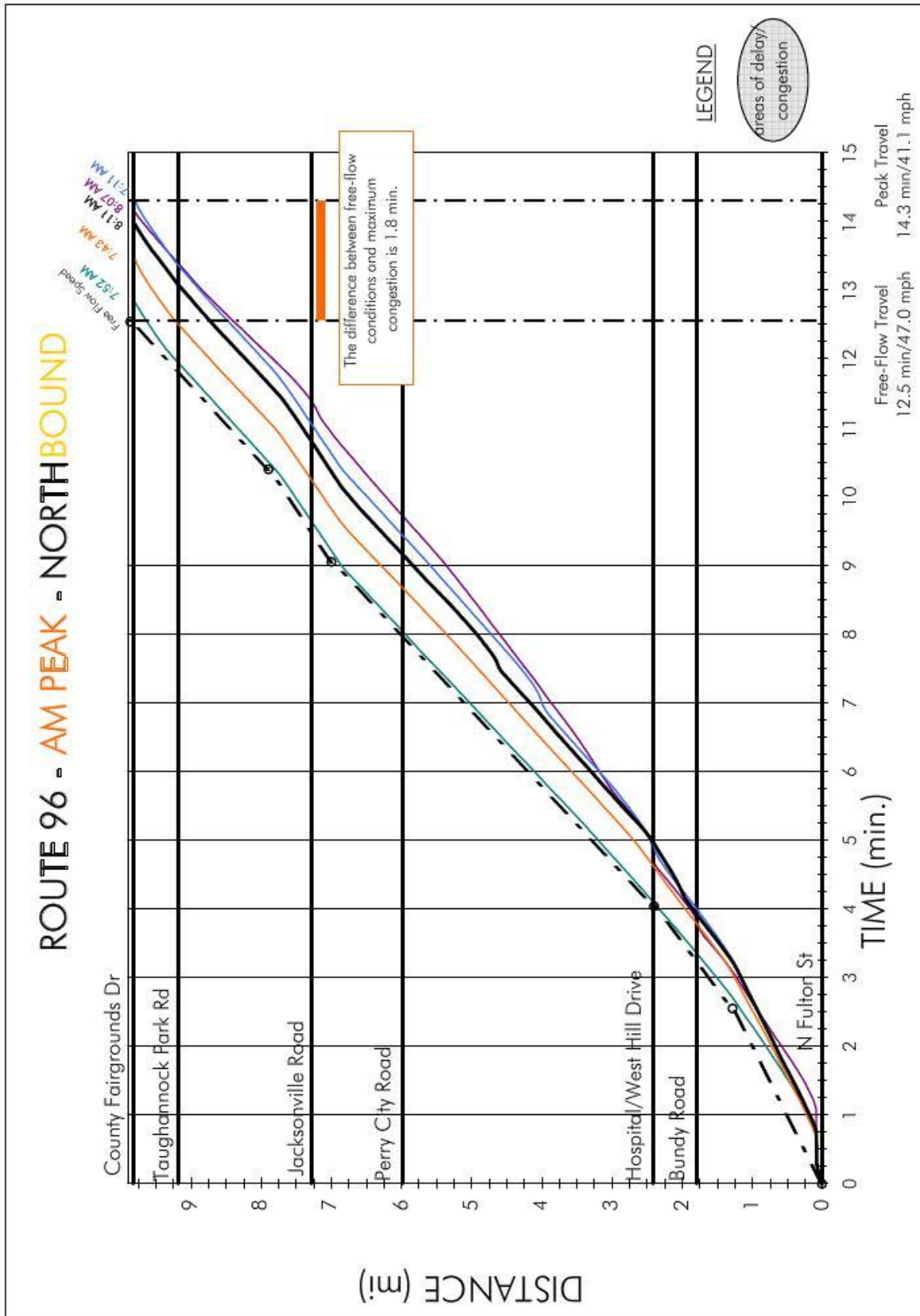
- There is no good roadway to get to the hospital!
- Something needs to be done to the south end of Route 96 – quality deteriorates quickly south of the hospital - need to serve population to the south and need a good road to do so
- Railroad tracks are an obvious issue
- TCAT service does not seem to be an issue for employees – there is good service to the hospital

## MISCELLANEOUS

- Mack Travis – Owner of Cayuga Professional Center
- Contact Bangs Ambulance for emergency responder issues

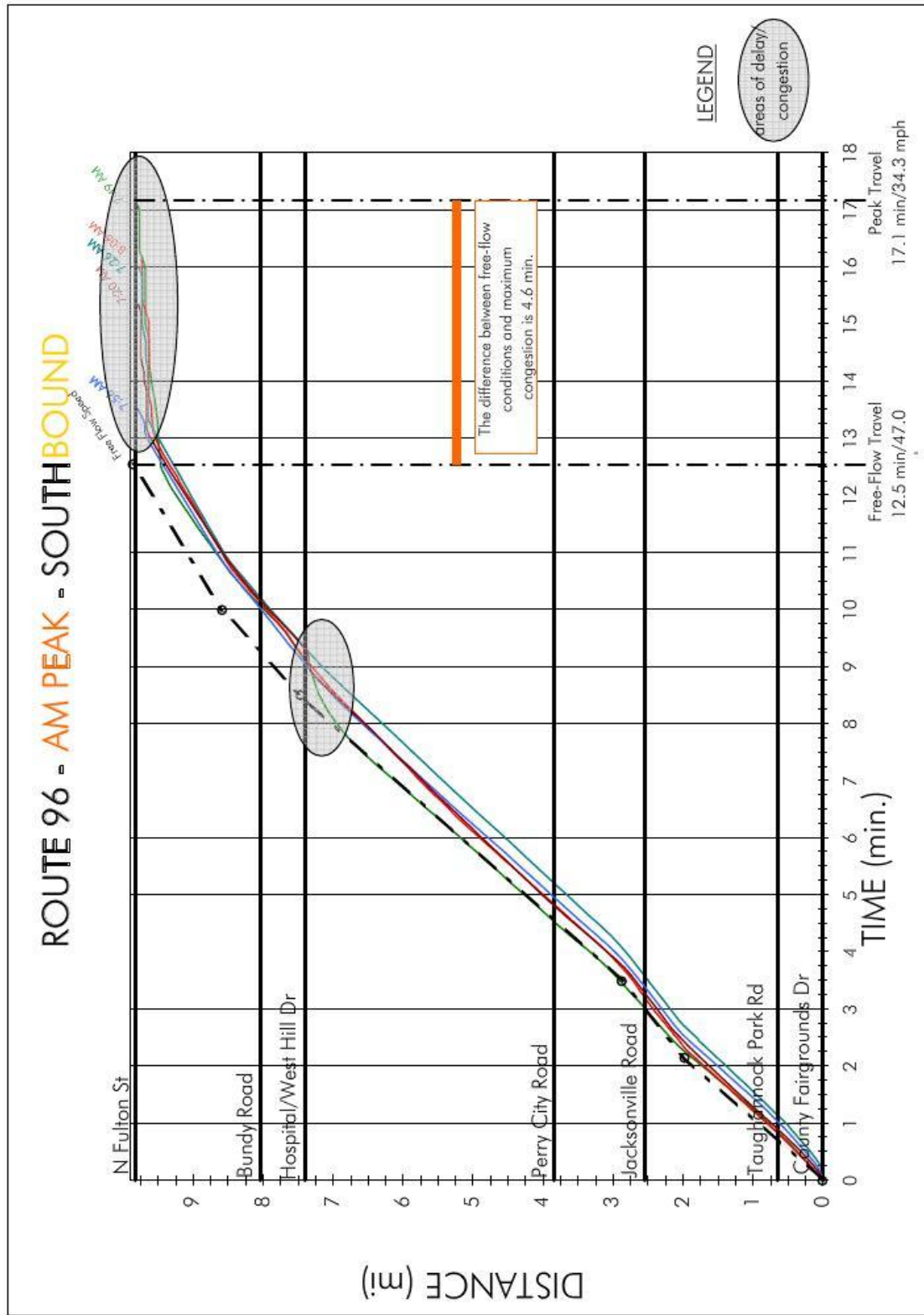
## APPENDIX 7 - CORRIDOR PERFORMANCE PROFILES, ROUTE 96

The following charts correspond and display travel time data for the corridor as referenced in Chapter 3 of this report.



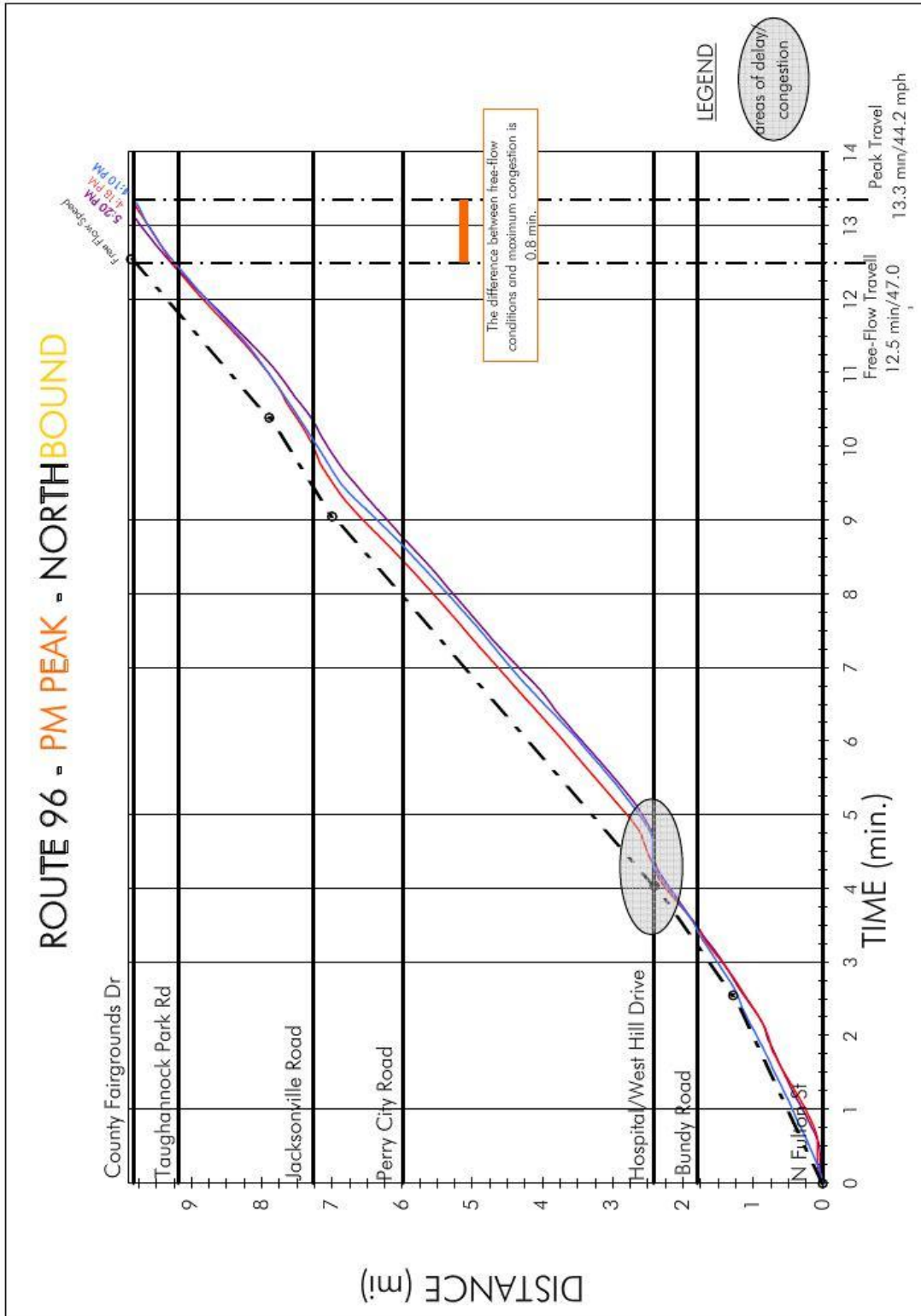
## CORRIDOR PERFORMANCE PROFILE





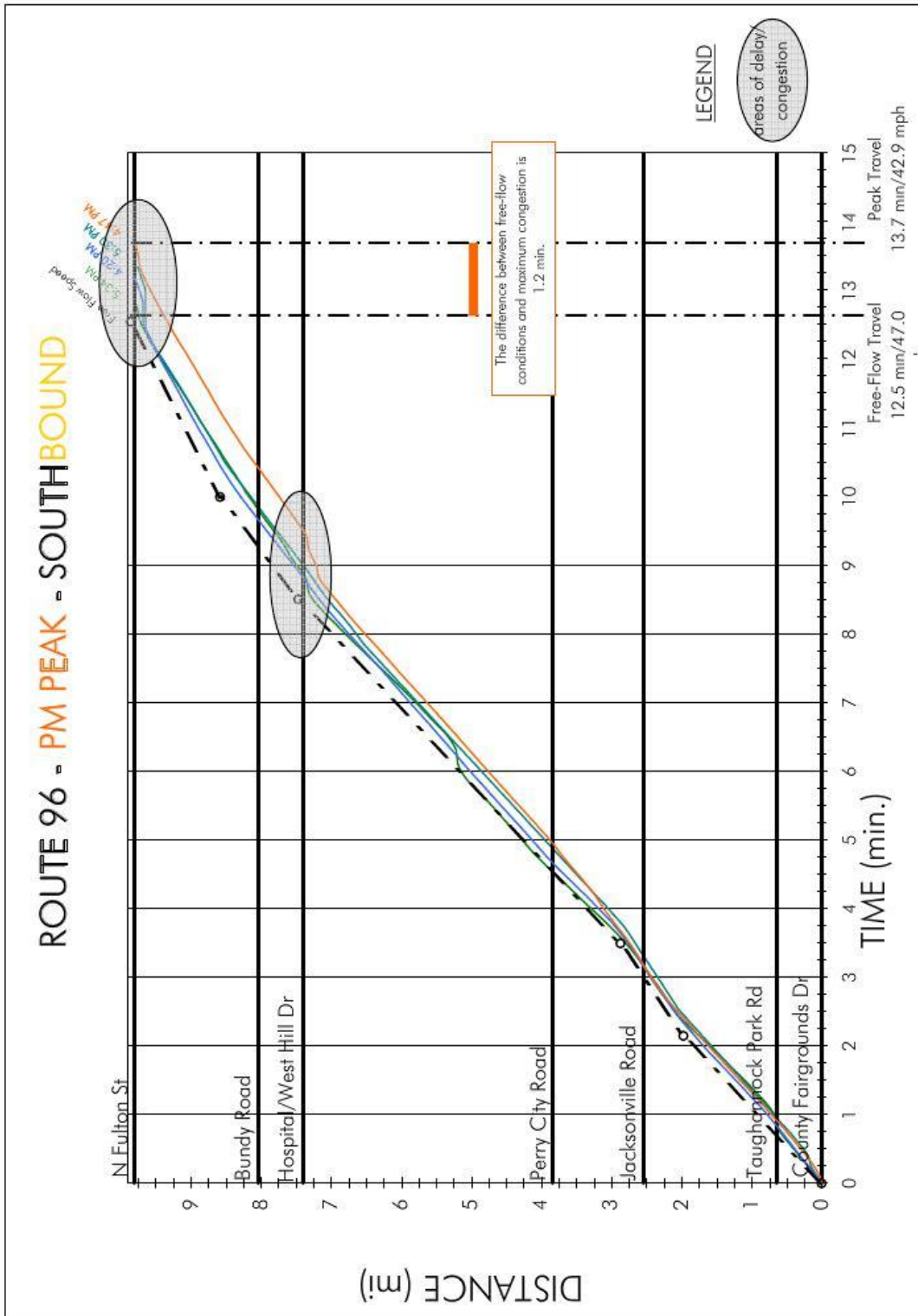
## CORRIDOR PERFORMANCE PROFILE





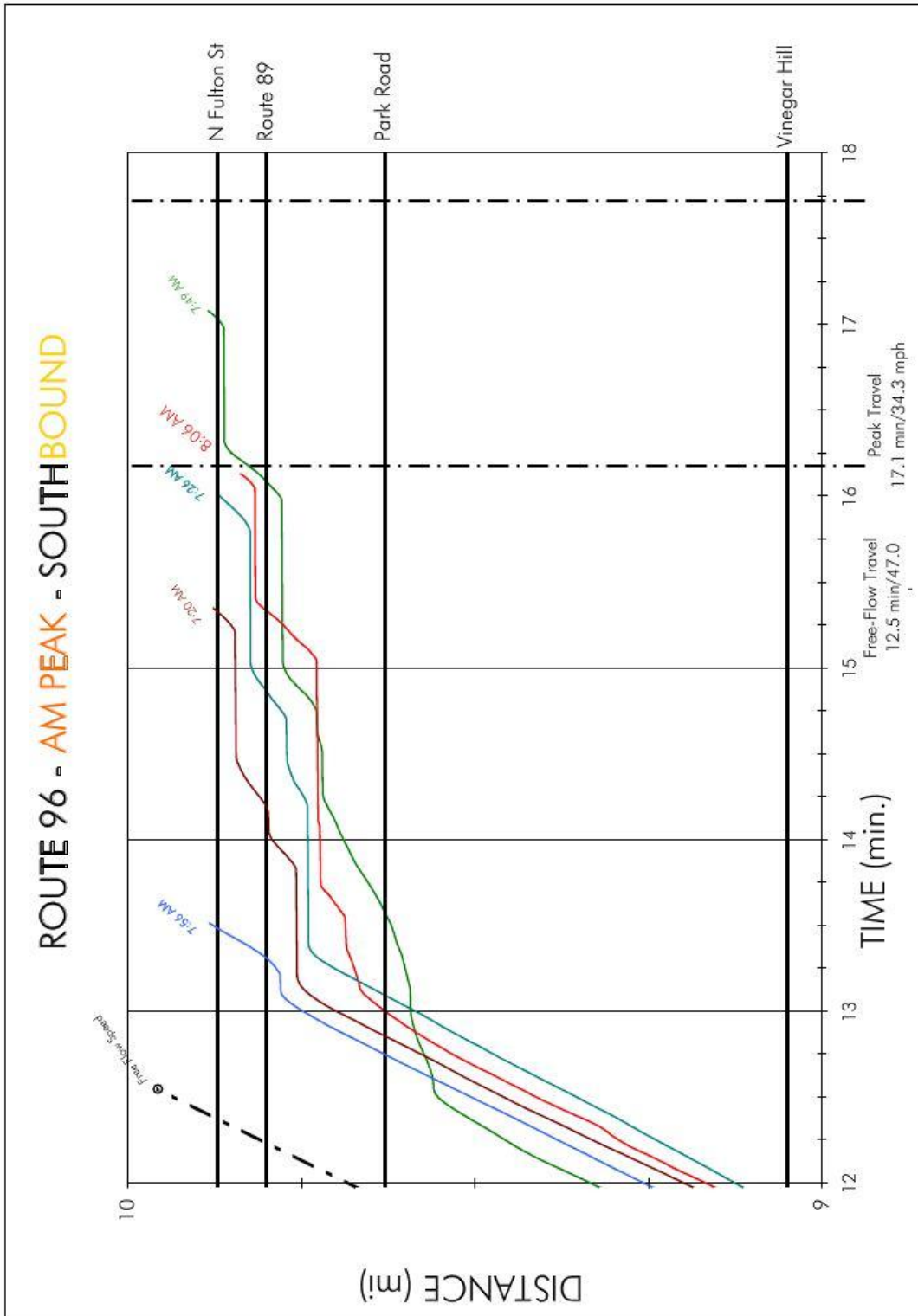
CORRIDOR PERFORMANCE PROFILE





CORRIDOR PERFORMANCE PROFILE



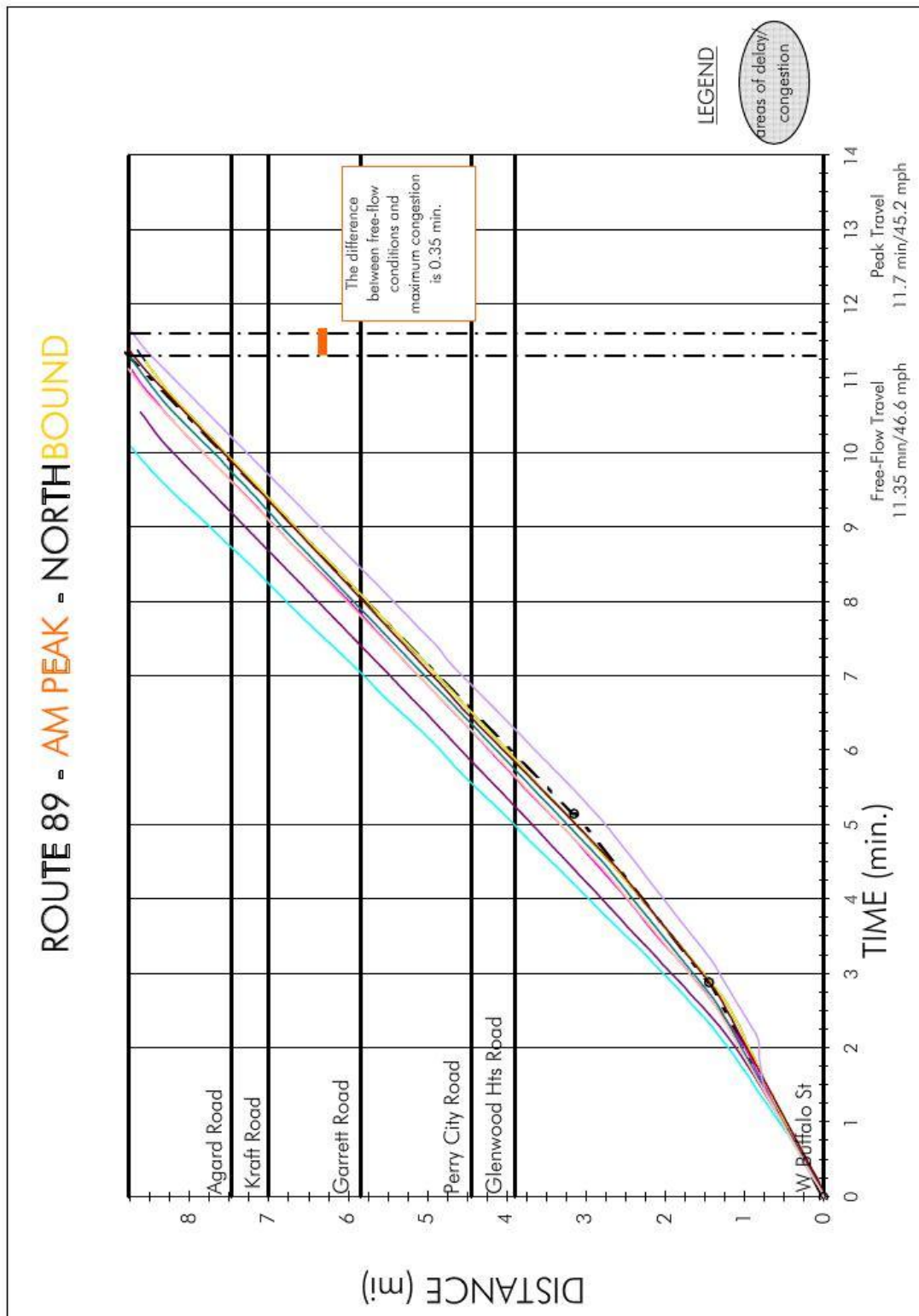


**CORRIDOR PERFORMANCE PROFILE**

## APPENDIX 8 - CORRIDOR PERFORMANCE PROFILES, ROUTE 89

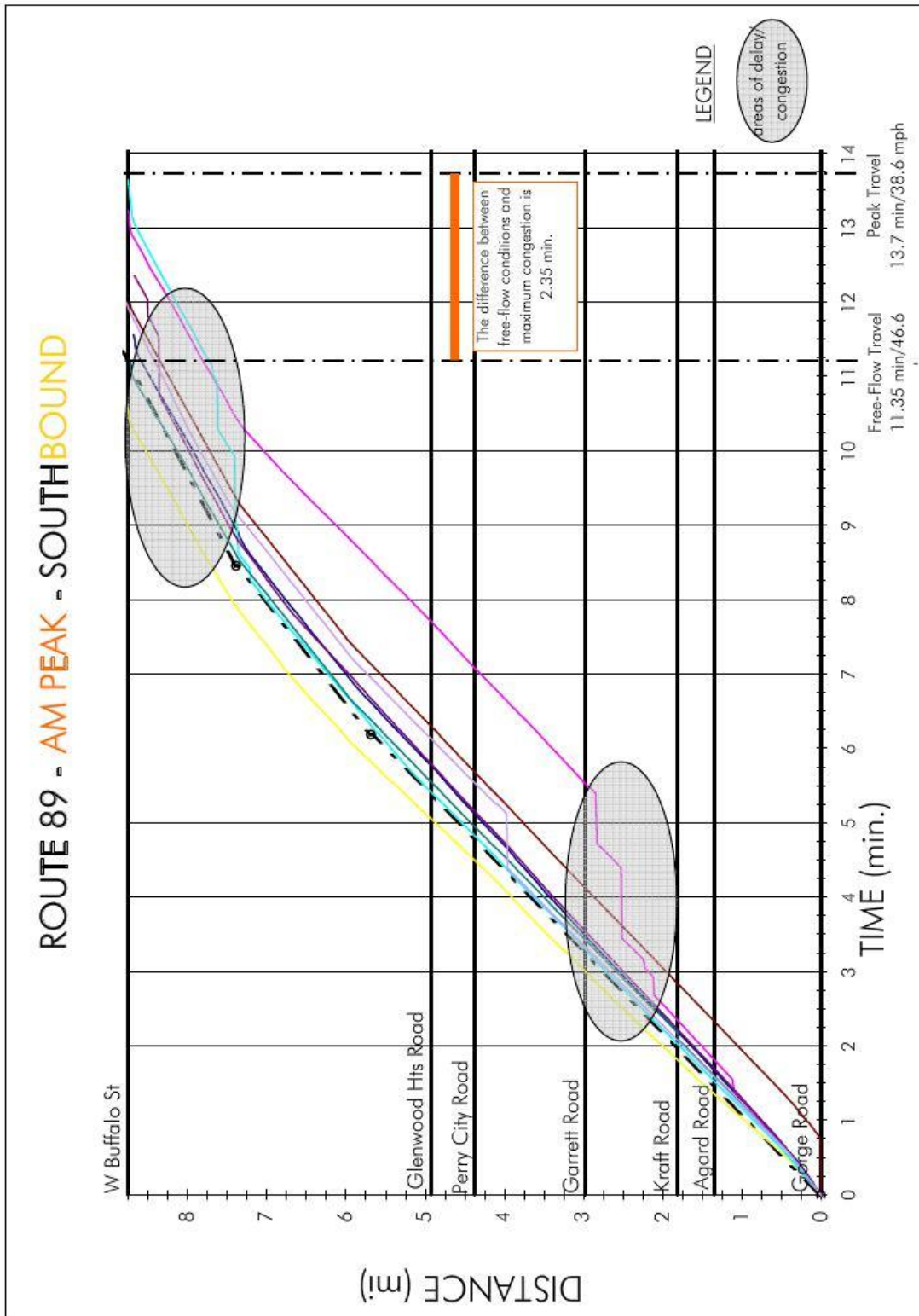
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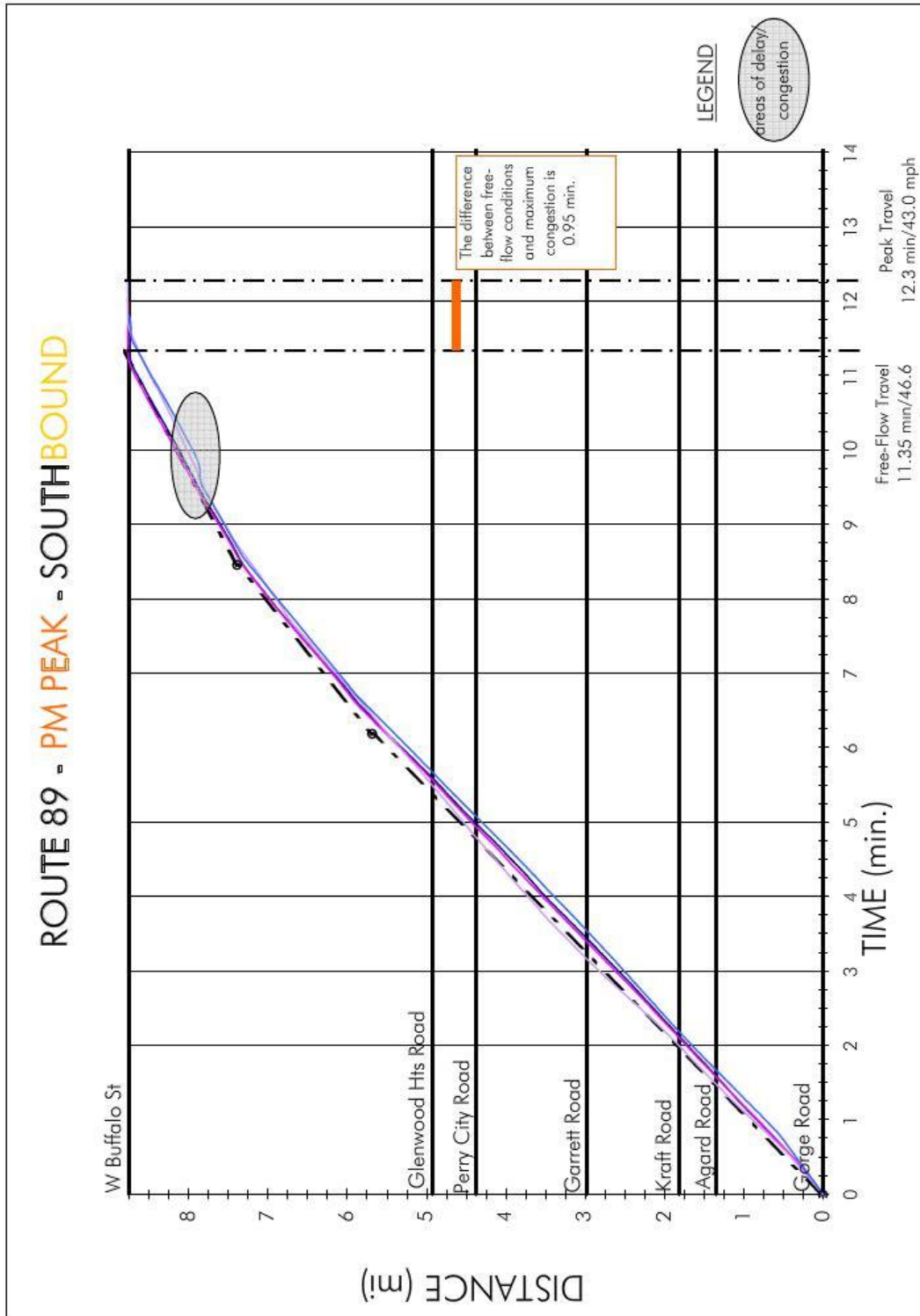
CORRIDOR PERFORMANCE PROFILE



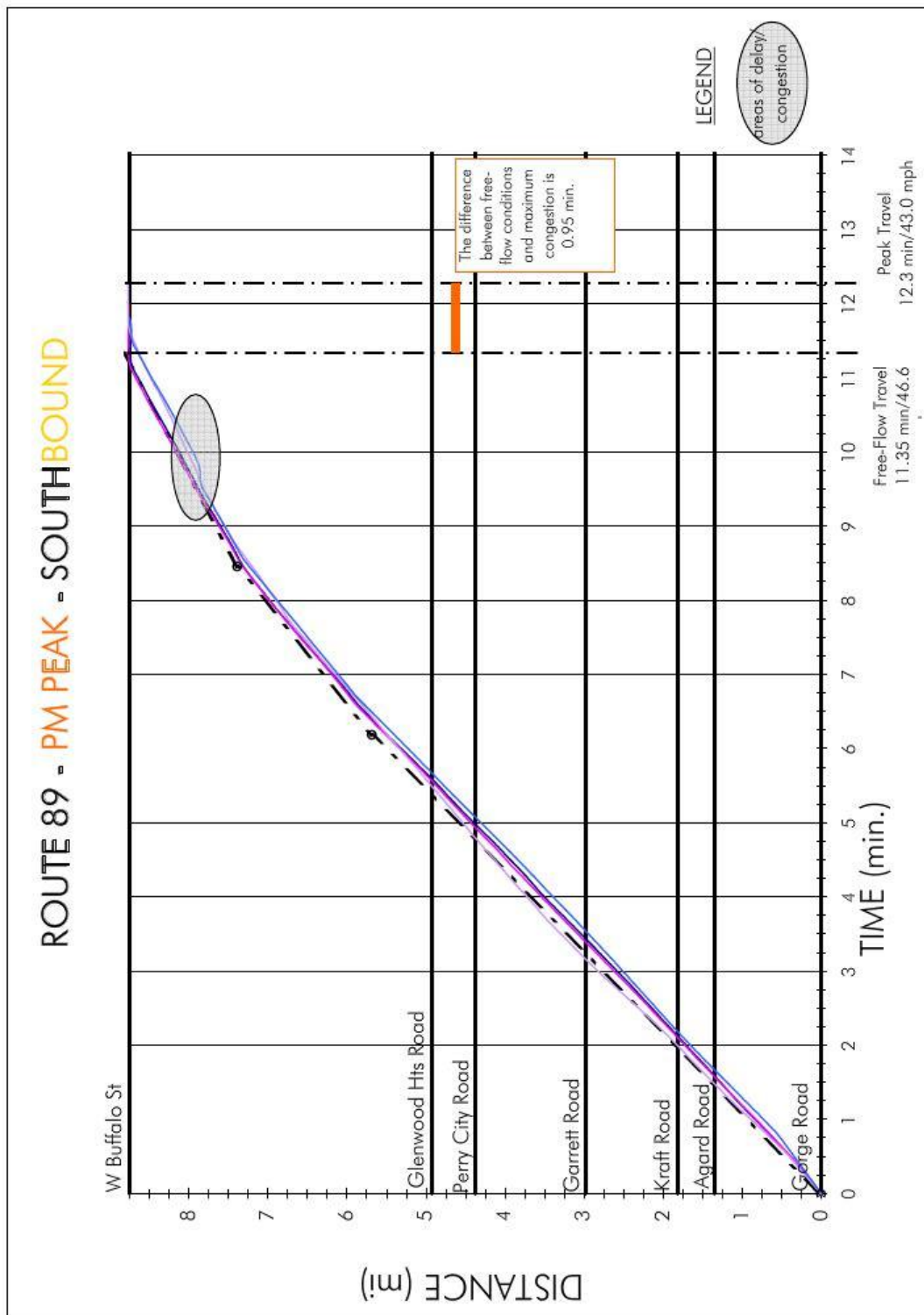


CORRIDOR PERFORMANCE PROFILE





CORRIDOR PERFORMANCE PROFILE



CORRIDOR PERFORMANCE PROFILE

## APPENDIX 9 – TRAFFIC ANALYSIS ZONES

The following table identifies Traffic Analysis Zones that fall within the Route 96 Study Area boundaries, according to 2000 Census data.

TAZ	2000 Population	Location
156	227	Aubles TP
171	72	Trumansburg
172	265	Trumansburg
173	37	Trumansburg
174	194	Trumansburg
175	124	Trumansburg
176	257	Trumansburg
177	197	Trumansburg
178	100	Trumansburg
179	335	Trumansburg
164	340	Route 227
163	89	Rabbit Run
162	260	Cold Springs Rd
161	292	Jacksonville
168	425	Jacksonville
165	243	Swamp College Rd
167	217	McKeel Rd
169	297	Perry City Rd
170	253	DuBois Rd
147	332	N Van Dorn Rd
235	449	W of Hospital
180	141	Hospital
192	473	Museum of the Earth
200	171	Bundy to Route 79
201	382	WH-Route 79 to Elm St Ext
215	119	WH-Coy Glen
289	876	WH-Floral Ave
288	0	WH-ACS
286	189	WH-Warren Pl
285	172	WH-Hector St
261	192	Linderman Creek
262	0	CI-Treman Park
264	1	CI-Stewart Park
284	0	CI-Inlet Island
290	3	CI-Inlet Island
291	31	CI-Inlet Island
327	5	CI-Cherry St
362	155	CI-Nate's Floral Est
361	109	CI-Agway
360	316	CI-Ithaca Plaza

ROUTE 96 CORRIDOR MANAGEMENT STUDY

TAZ	2000 Population	Location
354	82	CI-Spencer Rd
223	391	CI-South Hill
348	268	CI-South Hill
349	213	CI-South Hill
357	217	CI-Titus Flats
359	270	CI-Titus Flats
358	316	CI-Southside
328	105	CI-Northside
329	172	CI-Southside
330	332	CI-Southside
356	424	CI-Central Business District
355	206	CI-South Hill
353	281	CI-South Hill
350	379	CI-South Hill
347	319	CI-South Hill
346	199	CI-South Hill
345	65	CI-Central Business District
334	553	CI-Lower Collegetown
333	92	CI-Central Business District
332	287	CI-Central Business District
331	77	CI-Central Business District
321	349	CI-Central Business District
326	112	CI-Lower Northside
325	250	CI-Lower Northside
324	104	CI-Lower Northside
323	319	CI-Lower Northside
322	275	CI-Lower Northside
320	73	CI-Lower Northside
319	47	CI-Lower Northside
318	69	CI-Lower Northside
317	269	CI-Lower Northside
315	60	CI-Lower Northside
316	127	CI-Lower East Hill
314	141	CI-Lower East Hill
313	422	CI-Lower East Hill
312	419	CI-Collegetown
311	125	CI-Collegetown
307	280	CI-Cornell University
299	340	CI-University Hill
273	846	CI-University Hill
298	351	CI-Fall Creek
279	373	CI-Fall Creek
297	178	CI-Fall Creek
296	134	CI-Fall Creek
295	291	CI-Northside
292	170	CI-Northside

TAZ	2000 Population	Location
294	318	CI-Northside
293	47	CI-Northside
284	0	CI-Northside
283	2	CI-Northside
282	74	CI-Northside
281	140	CI-Fall Creek
276	99	CI-Fall Creek
275	98	CI-Fall Creek
277	158	CI-Fall Creek
280	235	CI-Fall Creek
278	352	CI-Fall Creek
273	840	CI-University Hill
263	0	CI-Stewart Park

# Route 96 Corridor Management Study

## TECHNICAL REPORT #2

Prepared By:

Bergmann Associates  
and  
SRF Associates

in conjunction with  
The Route 96 Technical Review Committee



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## 1.0 INTRODUCTION

### 1.1 Overview and Purpose

The purpose of the Route 96 Corridor Management Study is to help the Town of Ulysses, Town of Ithaca, City of Ithaca, Tompkins County, the Ithaca-Tompkins County Transportation Council (ITCTC), and the Tompkins Consolidated Area Transit (TCAT) define an appropriate approach to manage anticipated growth along the Route 96 corridor from the southern boundary of the Village of Trumansburg to the intersection of Route 96 and Route 13 at Fulton Street in the City of Ithaca. The Study is being guided by a Technical Review Committee consisting of representatives from each of the aforementioned communities and organizations.

The Study will serve as a guide to define a preferred development pattern for the corridor that is consistent with the goals and vision for each of the involved communities. It will recommend strategies to reduce anticipated traffic-related impacts caused by new development, as well as increased through traffic. The Town of Ulysses, Town of Ithaca and City of Ithaca are looking to update their comprehensive plans and have identified the need to analyze this corridor for housing and business opportunities as well as to mitigate associated increases in traffic.

Two development patterns are being compared. The first is a Nodal Development Scenario – a compact, mixed-use development strategy, and the second is a more conventional suburban style of development, referred to herein as the Trend Development Scenario. Both patterns will consider access management issues, improving transit services, incorporating transportation system improvements, and enhancing the overall aesthetic character of the corridor. The final product will recommend one style for future growth that protects livability within the Study area through sound land use and transportation management practices.

The Corridor Management Study is being developed as a series of four written Technical Reports, as summarized below:

- Technical Report #1 focuses on Existing Conditions within the Study area and lays the framework for later projections, analysis, and recommendations. Technical Report #1 provides a baseline of information relevant to the corridor from which to learn from, and build on.
- Technical Report #2 provides the transportation analysis portion of the study that is divided into three main components: traffic projections, traffic impact analysis, and opportunities and constraints analysis. Each of these sections helps to identify what opportunities, issues, and obstacles exist with regards to creating a more livable and desirable corridor.
- Technical Report #3 is the Recommendations document associated with the Study. Technical Report #3 will provide a range of recommendations which will cover topics relevant to the corridor including traffic, land use, quality of life, and others deemed important by local residents and Technical Review Committee members.

- Technical Report #4 will be an Implementation-based document that defines specific actions and activities desired to achieve and meet the recommendations and goals set forth in Technical Report #3.

## 1.2 The Study Area

State Route 96 in Tompkins County begins at the Seneca and Tompkins County lines in the northwest corner of the County and travels southeast through the Village of Trumansburg, Hamlet of Jacksonville, Town of Ulysses, Town of Ithaca, and culminates in the City of Ithaca at the confluence of State Route 13 at Meadow Street. The Route 96 Corridor Management Study examines the 10-mile stretch of road, including all lands within a mile the Corridor, from the southern municipal boundary of the Village of Trumansburg traveling southeast to the intersection with State Route 13.

The Corridor is rural in nature in the Town of Ulysses, reflecting its agricultural history. Traveling southeast into the Town of Ithaca, residential and commercial development increases, and upon entering the City of Ithaca dense housing lines the corridor as it descends.

The Study area is in the West Hill section of Tompkins County, one of the areas where increased housing development has occurred and where additional potential for development exists. Much of this area uses NYS Route 96 as the primary commuting route. The Route 96 corridor is also the location of most of the commercially-zoned property in the Town of Ulysses. Planned development in the corridor is seen as crucial to allowing economic development while mitigating traffic impacts of associated growth. It is a concern that increased development along the corridor will worsen congestion in the City of Ithaca and impact traffic flow and livability within the Study area.

## 1.3 The Planning Process

The Route 96 Corridor Management Study is a collaborative planning effort between Tompkins County, the City of Ithaca, the Town of Ithaca, the Town of Ulysses, the Ithaca-Tompkins County Transportation Council, and the Tompkins Consolidated Area Transit. Representatives from each of the organizations comprise the Corridor Management Study Technical Review Committee (TRC).

### 1.3.1. Work Completed To Date

The following tasks were completed to produce Technical Report #1. Additional information on each of the bulleted efforts may be found within Technical Report #1.

- Project Start-Up Meeting with Consultant Team
- Internal Committee Meetings
- Residential Community Survey
- Data Collection and Review
- Field Review and Analysis
- Windshield Survey
- Technical Review Committee Meeting
- Public Information Meeting
- Focus Group Sessions (2)
- Stakeholder Interviews (2)

The preparation of Technical Report #2 included the following tasks:

#### Identification of Measures of Effectiveness (Livability Benchmarks)

The consultant team, working and coordinating with the Technical Review Committee, developed a series of Measures of Effectiveness, or Livability Benchmarks, which were used to measure how two different development patterns (trend versus nodal) would impact various factors along the corridor, including traffic volumes, convenience, and accident rates.

#### Traffic Volume Modeling

ITCTC used TransCAD Transportation GIS Software for its modeling to help the consultant team determine future traffic volumes and conditions. The following bullets summarize the model used in association with this project.

- A classic 4-step model was used which consists of the following: trip generation (how many trips), trip distribution (the flow of trips), mode split (we only have 1 mode – drive alone), and traffic assignment (which roads).
- The trip purposes in the ITCTC model are home-to-work, work-to-home, home-to-other, other-to-home and other-to-other.
- The model uses trip rates based on a 1988 Household Travel Survey and socio-economic characteristics to estimate trip origins and destinations for 381 traffic analysis zones (TAZs). The estimated vehicle trips are then assigned to the highway network. External trips use 1997 Roadside Cordon Survey data.
- The model is for the afternoon (5-6 PM) peak hour ONLY. The model outputs are continually calibrated to existing traffic counts (2000-2008) for accuracy.
- The socio-economic characteristics (land use data) used for the model includes household size, auto ownership, and employment. The number of vehicles per household comes from 2000 Census Transportation Planning Package (CTPP) data – Part 2 [NOTE: the data used was for persons who drove alone to work ONLY in each TAZ]. The number of households per TAZ comes from 2006 Tompkins County Assessment data – with the 2000 CTPP vehicles per household ratios applied. The number of employees per TAZ comes from 2006 figures from Tompkins County Area Development.
- In 2004, the Tompkins County Planning Department (TCPD) published its Comprehensive Plan. For purposes of the County Comprehensive Plan, the TCPD projected the number of households and number of employees for each TAZ for the year 2030 for both Nodal and Trend scenarios. ITCTC uses the 2030 TCPD land use projections when doing future travel demand forecasting.
- For the Route 96 Corridor Management Study, SRF Associates provided ITCTC with the land use data (households-by-vehicles available and employment for the 26 TAZs in the Route 96 Corridor. ITCTC ran the future scenarios using the 2004 2030 Comprehensive Plan land use data – while substituting in the SRF land use data for the applicable 26 corridor TAZs for both the Trend and Nodal Scenarios. Additionally, SRF asked for model runs for 2 new scenarios: 1 scenario removed 20% of vehicle trips from Jacksonville area TAZs / and 25% from the Hospital area and the TAZ south of Trumansburg; the other scenario removed 25 and 33% respectively. The reason these scenarios were created was to predict the future mode shift to more non-drive alone trips (bus, walk, bike, car-pool) within the nodes.

### Traffic Impacts Analysis

The consultant team, working with ITCTC, provided inputs and adjustments for calibrating the existing TransCad model to evaluate the existing traffic volumes within the Route 96 sub-area. Two long-term growth scenarios were evaluated using the model to generate future (2028) traffic volumes and various Measures of Effectiveness (MOEs) for comparison purposes. The consultant team provided ITCTC with adjustment factors to evaluate the effects of trend growth patterns as opposed to a nodal, or more compact mixed-use development. The future traffic volumes were then analyzed to determine specific impacts and to compare the impacts of the two future scenarios as they relate to the Measures of Effectiveness identified, working with the Technical Review Committee.

### Opportunities and Constraints Analysis

The consultant team completed an Opportunities and Constraints Analysis for each development scenario. The benefits and issues associated with each scenario were identified for consideration by the TRC.

### Preferred Development Scenario

Based on the findings of the Opportunities and Constraints Analysis, as well as the Measures of Effectiveness ranking exercise, a preferred development scenario for the corridor was determined and specific considerations to help further that development pattern were identified.

### Technical Review Committee Meeting

The consultant team met with the Technical Review Committee on June 26<sup>th</sup>, 2008 to present the findings and recommendations from Technical Report #2. Copies of the report were distributed to the committee for their review and comment.

### 1.3.2. Next Steps

The next steps in the Route 96 Corridor Management Study planning process will include:

#### Public Meeting

A Public Meeting will be scheduled for October 2008. All findings that have been acquired to date will be presented and made available to the public. The format of the meeting will be discussed with the Technical Review Committee.

#### Technical Report #3

Technical Report #3 will include recommendations for traffic mitigation which will specifically include corridor management tools, techniques, and strategies for mitigating future impacts on travel and livability along the corridor. Recommendations will be from both a traffic and land use perspective and general design standards for the preferred development scenario will be prepared.

## 2.0 FUTURE DEVELOPMENT SCENARIOS

### 2.1 Introduction

The main objective of the Route 96 Corridor Management Study is to identify potential scenarios for growth along the corridor, to consider and analyze the potential impacts associated with each scenario, to define a preferred scenario, and to identify techniques and methods for achieving the preferred vision. Chapter 2.0 of Technical Report #2 discusses future population and traffic projections along the corridor and introduces two potential development scenarios. The population and traffic projections create a framework for considering, analyzing, and comparing both development scenarios.

The first scenario being considered is a Trend Development Scenario that would allow growth and development to continue along the corridor in a manner consistent with how it has occurred in the past. Future growth and development would likely occur on Route 96 occupying Route 96 frontage, with access directly from the corridor. The second development scenario, a Nodal Development Scenario, shows concentrated growth in three designated areas. A greatly reduced proportion of total growth is assumed to occur outside the designated nodes in this scenario.

The trend growth scenario assumes that the areas along Route 96 will grow in a pattern that is similar to the current development pattern. This results in spread out pockets of development generally having one type of use in a single location – in other words, housing is typically separated from retail and other commercial uses. Traffic traveling between developments in this scenario must use Route 96 to do so. In addition, the sprawling nature of these developments is not conducive to other modes of travel such as walking, bicycling, or transit use.

The nodal development, on the other hand, is a compact style of development that encourages a mixture of land uses and many internal multi-modal connections. According to a recent publication<sup>1</sup> "...compact development(s) help people live within walking or bicycling distance of some of the destination they need to get to every day – work, shops, schools, and parks, as well as transit stops." "...by building more homes as condominiums, townhouses, or detached houses on smaller lots, and by building offices, stores, and other destinations "up" rather than "out," communities can shorten distances between destinations. This makes neighborhood stores more economically viable, allows more frequent and convenient transit service, and helps shorten car trips."

### 2.2 Projected Population Growth

Projections for population growth in the corridor were developed for both the 10 and 20 year timeframes by the TRC. In order to arrive at population projections, two methods were used, with a mid- and high-growth rate applied to each outcome. Each of the methodologies/scenarios and findings are detailed further below.

Scenario #1 was based on 2000 Census population figures for the Route 96 travel shed, the boundaries of which were established in Cornell University's Transportation-focused Generic Environment Impact Statement (TGEIS). The travel shed, as shown in Figure 1, is the area surrounding the Route 96 corridor in

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<sup>1</sup> *Growing Cooler The Evidence on Urban Development and Climate Change*, Urban Land Institute, 2008.



which most trips along the corridor are expected to originate. Scenario #2 was based on the County's 2006 population and applied the current County growth rate. Specific growth for the corridor was determined based on the findings of Cornell University's Transportation Generic Environmental Impact Statement (TGEIS), which allocated 8.4% of total growth in the County to the Route 96 travel shed.

FIGURE 1 – PROJECTED POPULATION GROWTH FOCUS AREA  
Route 96 Travel Shed (also referred to as West Hill Travel Shed)



Both methods considered a mid-range 0.5% growth rate (or 10-year projection) and a higher-growth rate of 1% (20-year projection). To determine the fair estimate of population projected along the corridor, an average of the mid-range and high-range projections from both scenarios was determined as the baseline.

### 2.2.1. Projected Population – Scenario #1

The base population for the Route 96 travel shed, as derived by totaling the number of residents in all block groups within the TGEIS Rte 96 travel shed area, according to Census 2000 stats, is 6,017.

Considering a moderate growth rate of 0.5% over the next twenty years, the population within the travel shed would increase by 840 persons. Assuming a slightly more aggressive growth rate of 1% over the same twenty year period, the travel shed population would increase by 60 persons annually, resulting in a total population increase of 1,680 persons by 2028.



### 2.2.2. Projected Population – Scenario #2

The second population projection is based on a combination of both total County growth and travel shed assumptions identified within the Cornell University Transportation Generic Environmental Impact Statement (TGEIS). According to the American Community Survey, the base population for Tompkins County in 2006 was 100,407 persons. The projected annual growth rate for the County is 1%, resulting in 28,114 new residents in Tompkins County by 2028.

Using the methodology identified in the TGEIS, 8.4% of all new growth in the County is expected to occur within the Route 96 travel shed. Using this information, the projected 10-year (mid-range) population for the travel shed is 1,181 persons and the 20-year (high-range) population projection for the travel shed is 2,362 new residents.

### 2.2.3. Proposed Population Projection for Rte 96 Corridor

Using both population projections to inform the estimate for corridor population and developing nodal ratios, the results of each methodologies were averaged to arrive at final population projections for the corridor in both the mid-range (10-year estimates) and high-range (20-year estimates). This information is outlined in Table 1.

TABLE 1 – POPULATION PROJECTIONS, 2028  
*Route 96 Travel Shed*

	Projected Population: Scenario #1	Projected Population: Scenario #2	Average Projected 2028 Population
Mid-Range	840	1,181	1,011
High-Range	1,680	2,362	2,021

### 2.2.4. Projected Housing Units

Using the average mid- and high-range population projections for the Route 96 travel shed it is possible to estimate the total number of new households and housing units that will develop within the travel shed over the next 20-years.

Based on 2000 Census data, the average household size in Tompkins County is 2.32 persons. Using this figure, an approximate new number of housing units can be identified:

TABLE 2 – PROJECTED NEW HOUSING UNITS, 2028  
*Route 96 Travel Shed*

	Average Projected 2028 Population	Number of New Housing Units
Mid-Range	1,011	436
High-Range	2,021	871

## 2.3 Alternative Development Scenarios

### 2.3.1. Trend Development Scenario

Conventional development separates residential, commercial, and industrial uses. This design standard, seen in Tompkins County and throughout the United States, furthers our dependence on personal vehicles and creates unfriendly and unwelcoming environments for walking and bicycling, and as a result, increases traffic.

Conventional site development often occurs along roadway frontage, such as the 96 corridor, resulting in a loss of viewsheds and increasing safety issues associated with a greater number of curb cuts and access points. Trend development also tends to have a “sprawling” characteristic that results in the loss of important natural resources, agricultural lands, and rural qualities. This is of particular concern within the Study area, as the Towns of Ithaca and Ulysses are defined by their rural qualities and character and relationship to Cayuga Lake.

Under the Trend Scenario, the projected housing units identified in Section 2.2 would likely be developed haphazardly along the corridor, as single family homes on individual parcels or as part of larger-scale suburban style development. This will be the anticipated result if no new standards or guidelines are put into place to direct development.

### 2.3.2. Nodal Development Scenario

Nodal, or compact development, includes a variety of uses and associated amenities commonly found in village and Hamlets. Nodes of development would ideally offer a variety of housing types, mix of non-residential land uses, a pedestrian-friendly design, and a public transportation option within a neighborhood scale. The intention of nodal development is to create a walkable, affordable, accessible, and distinctive community. Maintaining rural character outside of the nodes - protecting natural resources, preserving rural and agricultural lands, and minimizing environmental impacts associated with new development - are all positive outcomes associated with Nodal Development Scenarios. Nodal development in small, rural areas is particularly appropriate when it revitalizes or expands upon existing hamlet, village, or employment centers.

When considering the implications of new housing growth within the Route 96 travel shed, a Nodal Development Scenario was identified as a potential alternative to the Trend Development Scenario. In order to get a realistic picture of how this development might occur, 75% of all projected new housing units were designated for one of three nodes on the Route 96 corridor – the Village of Trumansburg, Hamlet of Jacksonville, and in the immediate vicinity of Cayuga Medical Center. The City of Ithaca was not included as a node for the purposes of this Study, but is also a potential location for future development. The development potentials that exist within the City should be considered as part of other planning initiatives. Although the Village of Trumansburg is outside the northern boundary of the Study area, and the Village is not considered to be a part of this Study, it is an existing, developed node along the corridor and further increases to the density of the Village node would be expected.

## POPULATION CONCENTRATION

In order for a mixed use node to successfully balance residential and supporting uses, such as commercial establishments, it needs to have an adequate population concentration to draw from to support those uses. In Tompkins County, successful mixed-use Village Centers have developed in locations with population concentrations of just over 1,500 people. The Village of Trumansburg, for example, has a population of 1,581 people and the Village of Dryden has a population of approximately 1,832 people.

Although neither the Cayuga Medical Center node nor the Jacksonville Hamlet node will likely reach a population density of 1,500 people by 2028, as exemplified in the established County nodes, they can still begin to develop during the 20-year study period, incorporating some retail or other ancillary, support uses. This is particularly true at the Cayuga Medical Center node where employees could likely help support new retail and restaurant offerings, and spin-off office uses may begin to emerge.

## PROPOSED NODES

The nodes are defined, for the purpose of this Study, as the existing Village boundaries of Trumansburg, a 1/4-mile radius from the center of the Hamlet of Jacksonville (intersection of Route 96 and Jacksonville Road) and a 1/4-mile radius from the entrance of the Cayuga Medical Center along Route 96.

A ¼ mile radius is the typical standard for creating a nodal development that is intended to promote walkability. The average person is willing to walk about 5 minutes, or ¼ mile, to get to a specific destination, such as a bus stop, park, or retail establishment. Development focused within the defined nodal limits would be within a standard walking-distance. The boundaries of the node are intended to provide a baseline for where future redevelopment could occur. It is recognized that development consistent with the goals of the Nodal Development Scenario may occur outside the defined areas shown in Figures 2, 3 and 4 due to existing property lines, specific goals and objectives of individual developers, environmental constraints, and zoning regulations.

Table 3 shows the number of housing units, based on total travel shed projections, which will occur in the three designated nodes, assuming 75% of all new projected housing units for the travel shed occur within the nodal areas.

TABLE 3 – PROJECTED NEW HOUSING UNITS, 2028

*Total, All Route 96 Travel Shed Nodes*

	Number of New Households, Travel Shed	Number of New Households, Nodes (75%)
Mid-Range	436	327
High-Range	871	653

Based on current development trends, existing and likely infrastructure locations, and potential for growth, the ratios of growth shown in Table 4 were assigned for each of the three nodes along the corridor.

TABLE 4 – GROWTH RATIOS  
Route 96 Nodes

Nodal Location	Growth Ratio
Cayuga Medical Center	50%
Village of Trumansburg	30%
Hamlet of Jacksonville	20%

#### Cayuga Medical Center

Based on the allocation of 50% of all new residential growth designated for the travel shed occurring at the Cayuga Medical Center node, a total of 164 housing units are anticipated in association with the mid-range projection, and a total of 319 new housing units are anticipated in association with the high-range projection. When considering infrastructure already in place and residential and employment potentials, it was determined that a reasonable housing to land ratio for the Cayuga Medical Center node is an average of 5 units per-acre. Based on the projected population growth and target development density, approximately 32.8 acres of land would be needed to support the mid-range housing units and 63.8 acres of land would be needed to support the high-range housing projections. Required acreages for retail, office, and other commercial or ancillary uses have not been identified.

FIGURE 2 – NODAL BOUNDARY, ¼ MILE RADIUS  
Cayuga Medical Center

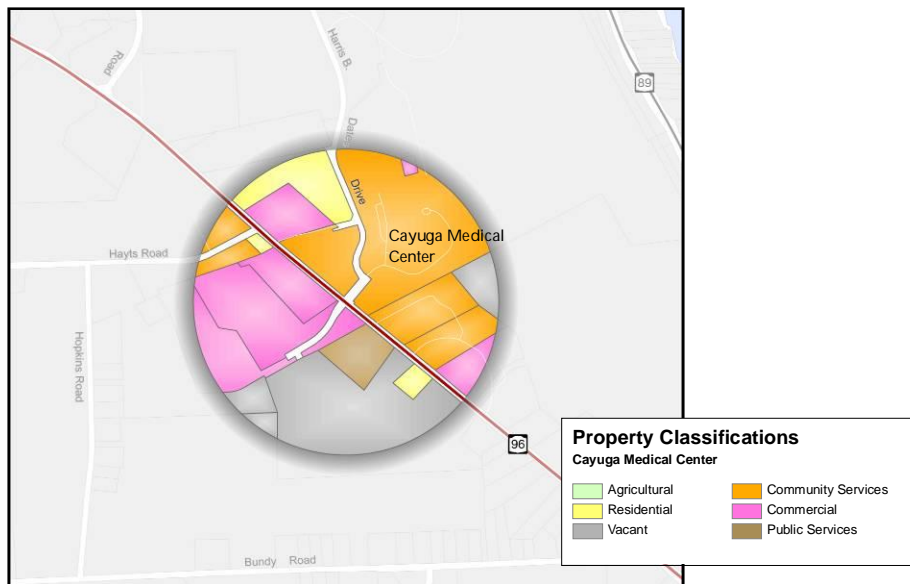


Figure 2 identifies the nodal boundaries based on a ¼ mile radius from the center of the node, which is considered to be the intersection of Route 96 and Harris B. Dates Drive. This node comprises approximately 125 acres of land. The vacant land within the node, as well as the vacant lands which are partially within the node but extend outside of the primary ring could

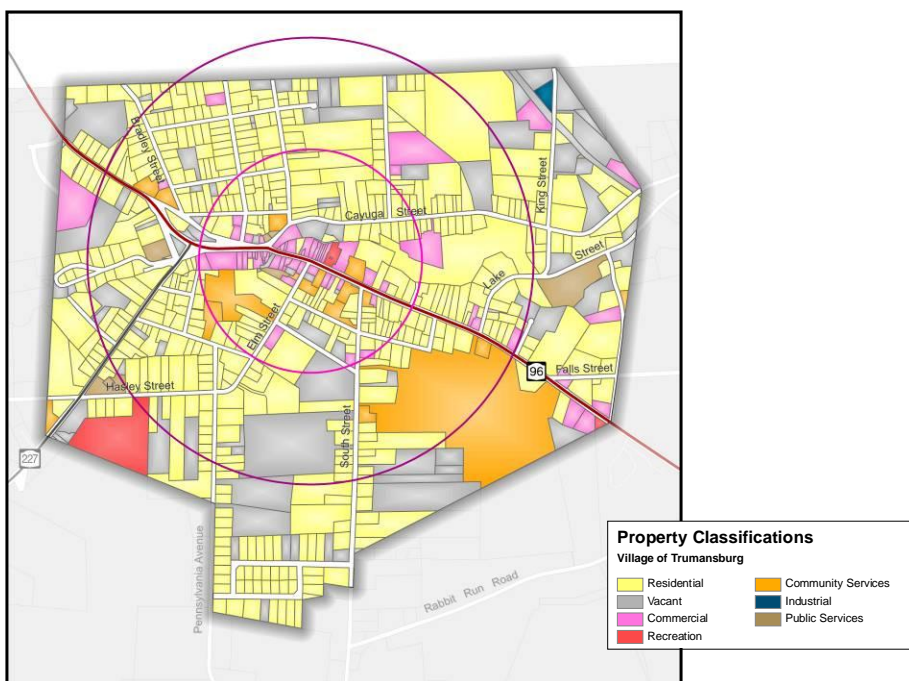
accommodate the high-projection residential build-out identified for this node - 319 housing units on 63 acres of land.

There is currently a development proposal before the Town of Ithaca Planning Board in which 106 cluster townhouse units are proposed just south and east of the Medical Center and behind PRI/Museum of the Earth. If the development is approved, 106 dwelling units could conceivably be built and occupied within the first five years of the forecast period of the study. This development is proposed to create a new intersection on Route 96 directly across from the Fire Station. Pedestrian and bicycle connections to other parts of the node would also likely be incorporated into this development.

### Village of Trumansburg

The identified boundaries of the Village of Trumansburg node are shown in Figure 3. The inner pink ring shows a  $\frac{1}{4}$  mile radius from the center of the Village, and the outer ring shows a  $\frac{1}{2}$  mile radius from the Village center. All lands within the Village boundaries have been included within the nodal boundaries even though it is greater than a  $\frac{1}{4}$  mile ring, due to the fact the Village node is an established, mixed-use population center.

FIGURE 3 – NODAL BOUNDARY  
*Village of Trumansburg*



Based on the allocation of 30% of all new residential growth designated for the travel shed occurring in the Village of Trumansburg node, a total of 98 housing units are anticipated in association with the mid-range projection, with a total of 191 new housing units anticipated in association with the high-range projection.

When considering infrastructure already in place, existing goods and services, and future employment potentials to maintain the node as a place where people can live, work, and recreate, it was determined that a reasonable housing to land ratio for the Village of Trumansburg was 5 units per-acre. Based on the projected population growth and target development density, approximately 19.6 acres of land would be needed in the Village to support the mid-range housing units and 38.2 acres of land would be needed to support the high-range population and housing projections.

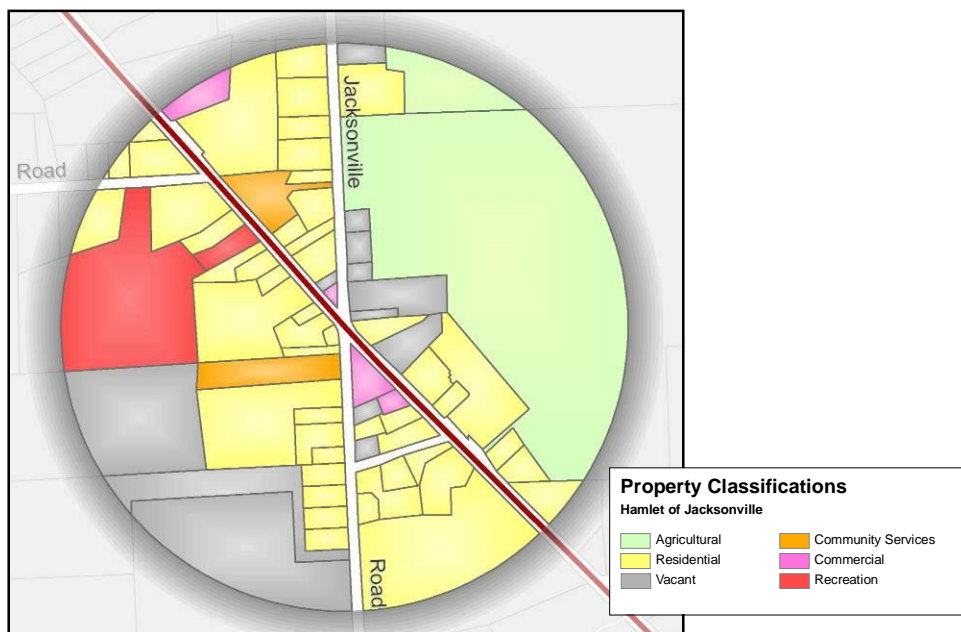
Within the ¼-mile ring, 13.9 acres of land are currently vacant within the Village and 92.8 acres are vacant within the ½-mile ring. The required acreage need to support the high-range build out for the Village could be supported within the ½-mile radius.

#### Hamlet of Jacksonville

The identified boundaries of the Hamlet of Jacksonville node are shown in Figure 4. The nodal center is at the intersection of Route 96 and Jacksonville Road around which the ¼ mile nodal boundary was drawn.

FIGURE 4- NODAL BOUNDARY, ¼ MILE RADIUS

*Hamlet of Jacksonville*



The Hamlet of Jacksonville node is allocated 20% of all new residential growth in the travel shed in the Nodal Development Scenario. This results in 65 new housing units (mid-range projection) and 128 new units (high-range projection) in the Hamlet. Based on the projected population growth and target development density, approximately 32.5 acres of land would be needed to support the mid-range housing units and 64 acres of land would be needed to support the high-range population and housing projections.

Within the existing nodal boundaries, approximately 53.1 acres of land are classified as vacant. The available vacant land could support the mid-range build-out of 65 new housing units on 32.5



acres. However, available vacant land could not support the high-range build-out of 128 housing units on 64 acres. However, there is the potential to redevelop other parcels and increasing their density to allow more housing units on existing sites than already exists. This is true for each node within the Study area, not just Jacksonville.

When considering infrastructure already in place, existing goods and services, and future employment potentials to maintain the node a place where people can live, work, and recreate, it was determined that a reasonable housing to land ratio for the Hamlet of Jacksonville was a minimum of 2 units per-acre. The density in this node is lower due to the fact that only water service is currently available. Should sewer service become available in this area in the future, the density of this node may be increased, and less land area would be required to achieve the projected number of housing units.

### Summary of Nodal Development Growth

Table 5 summarizes the distribution of housing units and Table 6 summarizes the land area requirements for the travel shed and identified nodes.

**TABLE 5 – DISTRIBUTION OF HOUSING UNITS**

*Route 96 Travel Shed and All Nodes*

Location	Mid-Range Projections	High-Range Projections
Total Travel Shed	436	871
Travel Shed - Nodes (75%)	327	653
Cayuga Medical Center*	164	327
Village of Trumansburg	98	196
Hamlet of Jacksonville	65	131

\* If proposed development (106 units) is approved, it would account for 65% of the total mid-range projection for housing units in the Cayuga Medical Center node.

**TABLE 6 – LAND AREA REQUIRED FOR HOUSING UNITS, in Acres**

*Route 96 Travel Shed and All Nodes*

Location	Mid-Range Projections	High-Range Projections
Total Travel Shed	TBD	TBD
Travel Shed - Nodes (75%)	84.9	170.1
Cayuga Medical Center	32.8	65.4
Village of Trumansburg	19.6	39.2
Hamlet of Jacksonville	32.5	65.5

In developing the projections for each of the nodes it should be noted that any existing commercial and industrial growth planned for the Town of Ulysses, outside the designated nodal areas was not considered. In-commuting from areas outside of the travel shed as well as anticipated moderate growth of the Cayuga Medical Center were also not considered as reliable

data related to these two items was not readily available. However, it is estimated from available NYSDOT data that approximately 30% of the traffic destined to the city on Route 96 originates from areas north of the county line. This will remain the same under both scenarios.



## 3.0 TRAFFIC IMPACT ANALYSIS

### 3.1 Introduction

Existing transportation data collected and documented in Technical Report #1 were used in conjunction with the Ithaca Tompkins County Transportation Council's (ITCTC) TransCad model provide input values and adjustments for calibrating the existing travel demand model to evaluate the existing traffic volumes within the Route 96 sub-area. Two long-term growth scenarios were evaluated using the model to generate future (2028) traffic volumes and various measures of effectiveness (MOEs) for comparison purposes. The following sections document the methodology for projecting future traffic volumes, the analysis of the future traffic volumes and transportation conditions, and the resulting impacts along the corridor.

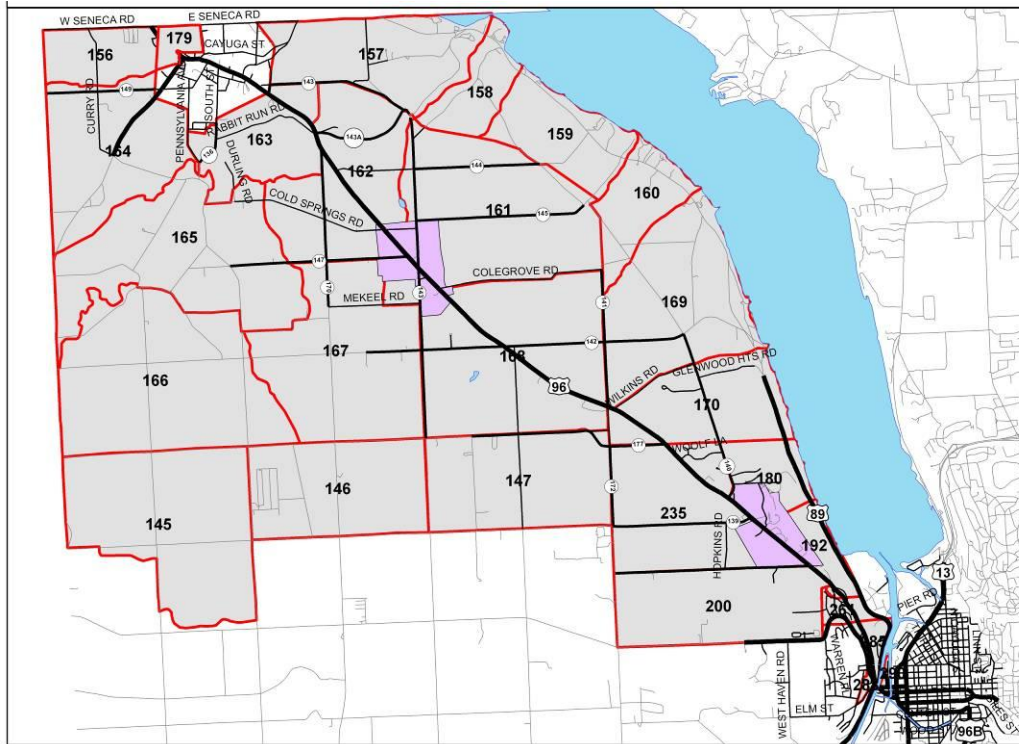
### 3.2 Trip Demand Estimates

#### 3.2.1. Traffic Volume Modeling and Traffic Impact Analysis

The existing Ithaca-Tompkins County Transportation Council (ITCTC) regional travel demand model uses population and employment data to generate and distribute trips along the model's road network. The trip generation variables used in the model are households in four auto-ownership groups and three size categories along with four categories of employment for non central business districts (CBD). The trip distribution model uses a gravity model to estimate origin/destination tables. The network included all state roads and county roads and other roadways of major regional significance. The model was developed for the PM peak period only. The regional model zone system contains 364 internal zones. A review of the regional model revealed that it was better to run the entire regional model to forecast traffic volumes of the Route 96 travel shed area instead of creating a sub area model.

The consultant team, working and coordinating with Ithaca Tompkins County Transportation Council (ITCTC), provided inputs and adjustments for calibrating the existing TransCad model for the Traffic Analysis Zone's (TAZ's) included on the Route 96 Travel Shed area. The Travel Shed on Route 96 includes 25 TAZ's. In order to account for trips from the existing node at the Village of Trumansburg, an additional TAZ to the north of the Study area was included (TAZ 179) in this Study. Figure 5 displays a TAZ map on the Route 96 Travel Shed area.

FIGURE 5 – TRAVEL DEMAND MODEL HIGHWAY NETWORK AND TAZS  
Route 96 Study Area



Pertinent employment data from the existing ITCTC regional model were adjusted to calibrate the model more accurately based on existing traffic count data collected by SRF & Associates in 2008. Two long-term growth scenarios were evaluated using the revised regional model. Future (2028) traffic volumes were projected for both growth scenarios. Household and employment projections obtained from the Tompkins County Planning Department for the year 2028 were used to distribute traffic between the Study area zones. The estimated increase in households and employment is approximately 871 households and 637 employees within the Route 96 travel shed for the future 2028 scenario.

Cayuga Medical Center is the major employer in the Study corridor. Information provided by the Tompkins County Planning Department from the stakeholder meeting held on April 21, 2008 with Cayuga Medical Center projected an employment growth of approximately 200 employees.

The 2028 future ITCTC regional Transcad model was used to estimate the households and employee data for the Trend Scenario. To compare both scenarios (trend vs. nodal), the difference between the total future and the total existing household and employment data was assumed to be the same. In order to balance the projection for 871 households and 637 employees, a multiplier was used to adjust from the trend scenario numbers within the existing model. The multiplier is based on difference between the total number of households added in the 2028 future regional model within the 26 study area TAZ's and the number of households projected for this Study.

The household projections (high-range) for the year 2028 under the Nodal Scenario are broken down to four categories

- 37.5% (327 households) of the household increase projected at the hospital node was distributed in the 180, 192 and 235 zones based on the land use and vacant land available.
- 15% (131 households) of the household increase projected at the Hamlet of Jacksonville node were distributed in the 161, 162, 167 and 168 zones based on the land use and vacant land available.
- 22.5% (196 households) of the household projections were added to Village of Trumansburg node. The Village of Trumansburg is not included in the study area. The Village is divided into 8 TAZ's. However, in order to adjust for trip's originating from the Village (north of the study area), TAZ 179 (one of the Village zones) was selected to apply all of the household and employment data. TAZ 179 only reflects that the trips are originating from north of the study area.
- The remaining 25% (217 households) of the projected population increase was distributed to the remaining TAZ's similar to the trend based method using a multiplier.

Table 7 below compares the household and employment data used for each TAZ within the Route 96 Travel Shed for the year 2028.

TABLE 7 – HOUSEHOLD AND EMPLOYMENT DATA  
TAZs, Route 96 Study Area

TAZ	Household			Employment		
	Existing	Trend	Nodal	Existing	Trend	Nodal
145	45	62	52	10	12	11
146	47	59	55	0	0	0
147	124	139	145	12	13	13
156	95	117	111	4	4	4
157	44	56	51	74	84	80
158	17	20	20	16	17	17
159	83	94	97	4	4	4
160	26	32	30	0	0	0
161	110	134	164	18	20	61
162	101	119	140	27	29	37
163	37	52	43	59	71	69
164	116	164	135	40	48	43
165	98	120	114	4	4	4
166	49	70	57	10	12	11
167	85	103	94	15	17	16
168	177	210	206	46	50	50

169	148	170	173	71	76	77
170	118	134	138	231	247	250
180	69	128	118	1154	1486	1382
192	168	216	282	294	303	319
200	89	129	104	40	58	43
235	190	258	354	0	0	135
261	89	125	104	209	264	216
285	79	122	92	180	250	246
288	0	0	0	0	0	0
179	132	374	328	46	130	114
TOTAL	2336	3207	3207	2564	3201	3201

Table 8 shows the household and employment increase for the two nodes (Hospital and Jacksonville) over the next 20 years.

TABLE 8 – 2028 NODAL HOUSEHOLD AND EMPLOYMENT PROJECTED INCREASES  
*Cayuga Medical Center and Jacksonville Nodes*

	TAZ	Household		Employment	
		Trend	Nodal	Trend	Nodal
Hamlet of Jacksonville	161	24	54	2	43
	162	18	39	2	10
	167	18	9	2	1
	168	33	29	4	4
	TOTAL	93	131	10	58
Cayuga Medical Center	180	59	49	332	228
	192	48	114	9	25
	235	68	164	0	135
	TOTAL	175	327	341	388

### Traffic Volume Adjustments for Future Scenarios

The consultant team provided ITCTC with adjustment factors to evaluate the effects of traditional growth patterns as opposed to a nodal, or more compact mixed-use development. Using information derived from the Community Transportation Survey, and methodologies provided by the Institute of Transportation Engineers and the Transportation Research Board, trip reduction factors were derived to account for the positive effects of compact development under the Nodal Development Scenario. Vehicular trips can be expected to decrease (when compared to the Trend Development Scenario) by the following percentages:

- 5% to 10% as a result of increased transit usage
- 2% to 20% as a result of multi-use vehicular trips

- 2% to 5% as a result of increased bicycle trips
- 5% to 10% as a result of increased pedestrian trips

Taking all of these factors into consideration, overall trip reduction factors were developed for the two new nodes as well as Trumansburg. At the Cayuga Medical Center and at the Trumansburg node (TAZ 179) there were overall reductions in trips of 33% and at the Jacksonville node an overall trip reduction of 25% was used in the travel demand model.

Traffic volumes were then projected 20 years (2028) into the future for each growth scenario. Ten year traffic volumes were derived from the 20 year traffic volumes as the travel demand model does not currently provide interim projections. In addition, AM peak hour volumes were estimated using the same growth projections as the PM traffic volumes.

### 3.3 Comparison of Traffic Impacts for the Trend and Nodal Growth Scenarios

Various measures of effectiveness (MOEs) were used to compare the impacts resulting from the trend and nodal growth scenarios. The MOEs and their results are discussed in detail below.

#### 3.3.1. Volume to Capacity Ratio (v/c ratio)

The V/C ratio provides an approximate indicator of the overall sufficiency of the travel roadway segment. Table 9 below expresses the operational status of the travel roadway segment for planning purposes using descriptive terms “over”, “at”, “near”, or “under capacity.

TABLE 9 – TRAVEL CHARACTERISTICS – V/C RATIO

Critical v/c Ratio	Relationship to Probable Capacity
$v/c \leq 0.85$	Under Capacity
$0.85 \leq v/c \leq 0.95$	Near Capacity
$0.95 \leq v/c \leq 1.00$	At Capacity
$v/c \geq 1.00$	Over Capacity

Figures 6, 7, and 8 compare “v/c ratio” for 2008 Existing, 2028 Trend, and 2028 Nodal base scenarios.

FIGURE 6 – 2008 EXISTING CONDITIONS – PM PEAK VOLUME (V/C RATIO)  
Route 96 Study Area

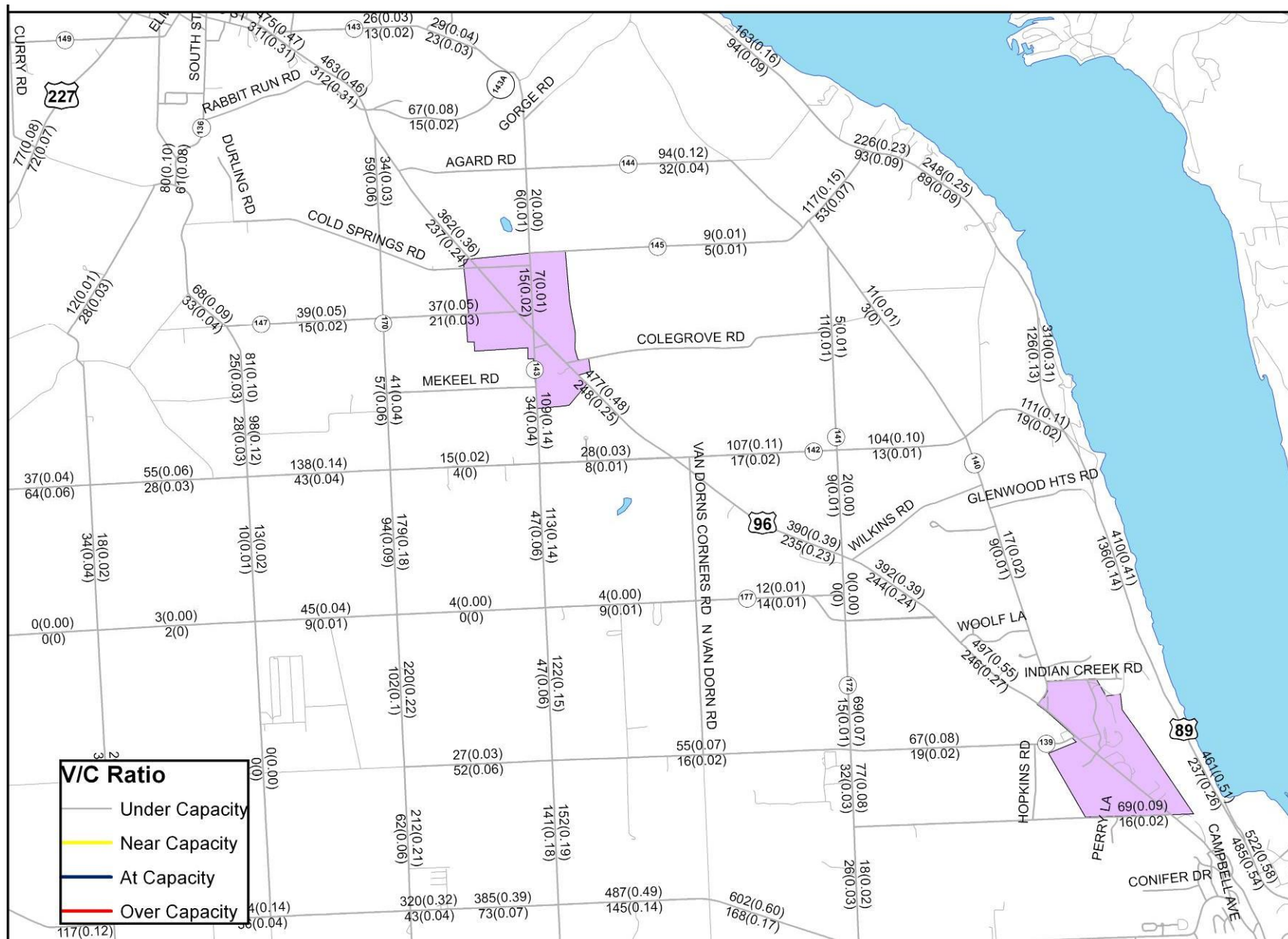




FIGURE 7 – 2028 TREND BASE CONDITIONS – PM PEAK VOLUME (V/C RATIO)  
Route 96 Study Area

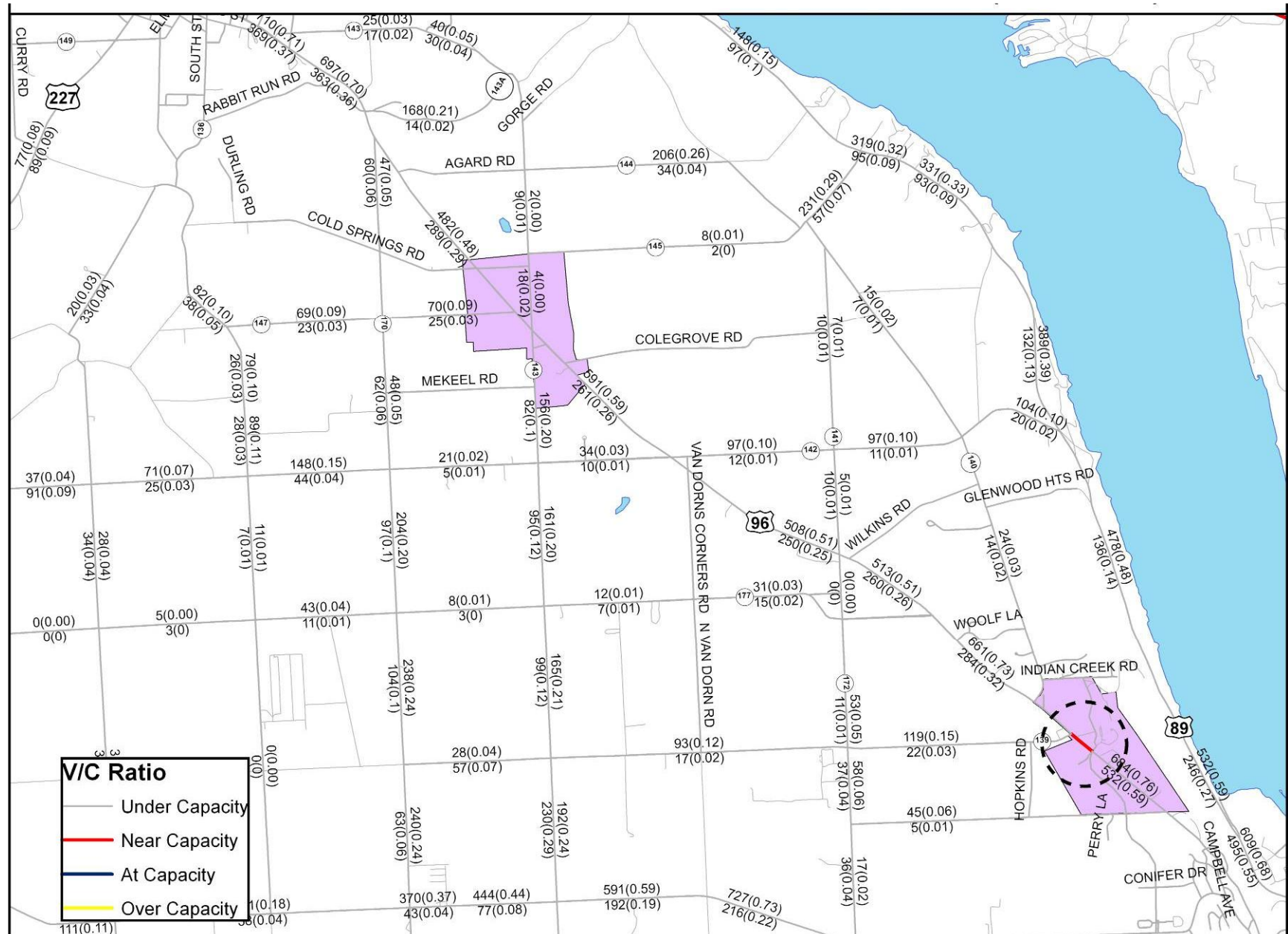
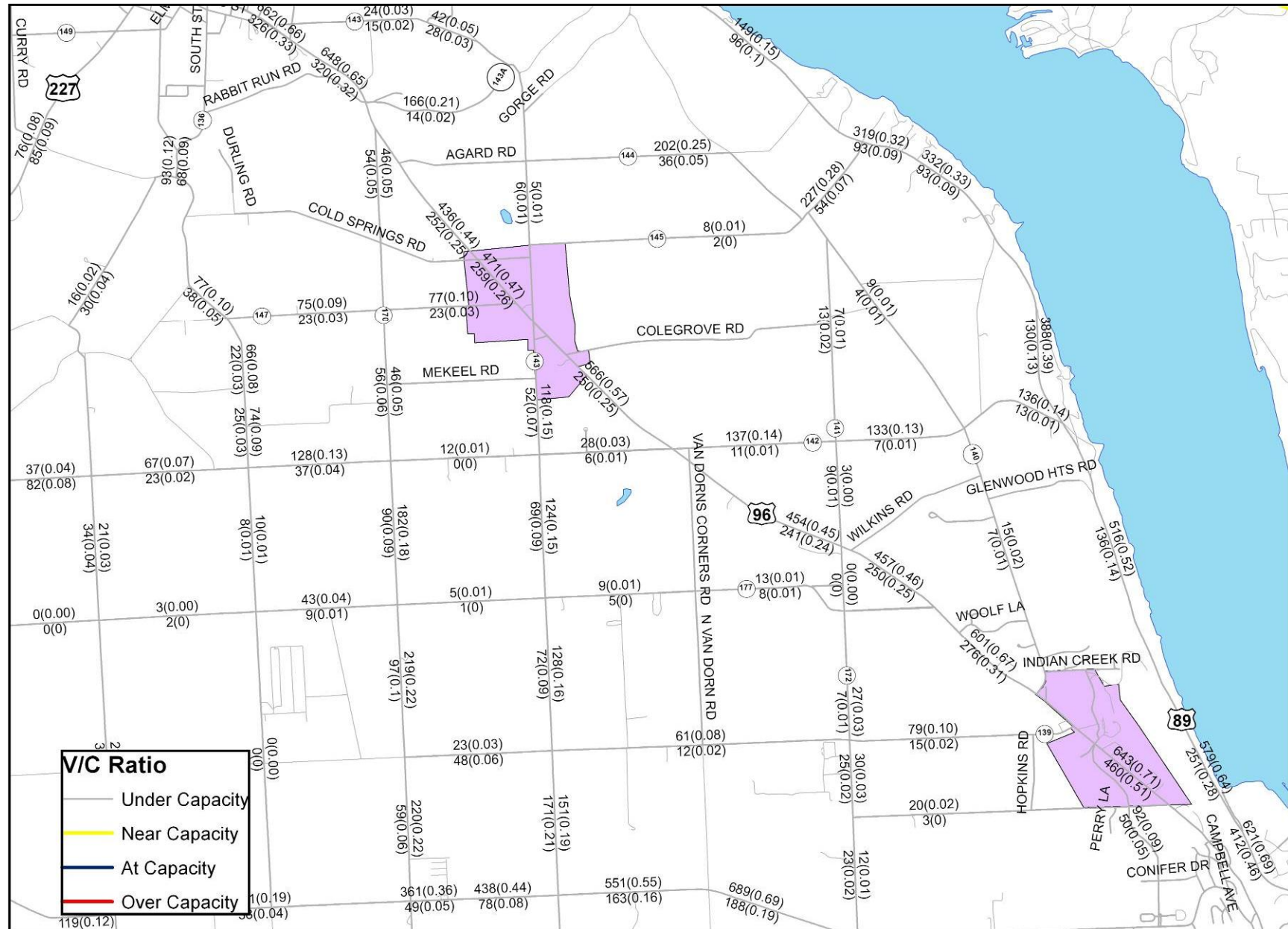


FIGURE 8 – 2028 NODAL BASE CONDITIONS – PM PEAK VOLUME (V/C RATIO)  
Route 96 Study Area





As shown in the figures above, all links on the Route 96 Study corridor are “under capacity” during the PM peak hour with the exception of a link near the Cayuga Medical Center. This link is shown inside a circle under the trend conditions in Figure 7 and indicates that this link operates at “near capacity” conditions under the 2028 Trend Growth Scenario. It is noted that this link operates “under capacity” in the nodal scenario.

### 3.3.2. Vehicle Miles Traveled (VMT)

PM peak hour VMT is the volume of vehicle travel on the Study corridor (Route 96) multiplied by the total mileage of the segments. PM peak hour VMT was converted to yearly VMT on the Route 96 Study corridors. Under the nodal scenario, due to development occurring primarily at the two nodes (Hospital and Jacksonville) on the Route 96 corridor, the total miles of travel along Route 96 are expected to decrease (compared to the trend growth scenario) as shown in Table 10.

TABLE 10 – TRAVEL CHARACTERISTICS - VMT  
Route 96 Study Area

	Total VMT * (miles/year) (in millions)
2008 Current Conditions	28.0
2028 Trend Development	34.8
2028 Nodal Development	32.0
Decrease between Trend and Nodal – Difference in VMT (% Decrease)	2.8 (8.0%)

\* Transcad model is PM Peak only - Total VMT assumes PM Peak is 10% of AADT x 365 days per year

The number of vehicle trips in the Route 96 travel shed area under the nodal scenario in 2028 (32.0 million miles/year) is less than that under the trend scenario (34.8 million miles/year). This equates to approximately 2.8 million miles (8.0%) fewer VMT between the trend and nodal growth scenarios each year.

### 3.3.3. Vehicle Hours of Delay (VHD)

Vehicle hours of delay is a measure of the amount of time it takes to travel a segment during peak times compared to the time it takes to travel the same segment at the free flow speed. This measurement provides a general indication of traffic congestion.

Table 11 shows, the total delay that Route 96 will experience in the Study corridor between the southern boundary of the Village of Trumansburg to the intersection of Route 96 and Route 13 in the City of Ithaca under 2008 Existing, 2028 trend and 2028 nodal growth conditions during the PM peak hour.

TABLE 11 – TRAVEL CHARACTERISTICS - VHD  
*Route 96 Study Area*

	Link Delay (Minutes)
2008 Current Conditions	35.02
2028 Trend-Based Development	39.02
2028 Nodal- Based Development	36.75
Decrease between Trend VS Nodal - Difference (% Decrease)	2.27 (6%)

The total delay on the Route 96 travel shed area under 2028 nodal growth scenario is 2.27 hours less than the trend growth scenario during the PM peak hour. Figures 10 and 11 show the delay in hours along the corridor for each growth scenario during the PM peak hour.

FIGURE 9 – 2008 EXISTING CONDITIONS (DELAY IN MINUTES)  
Route 96 Study Area

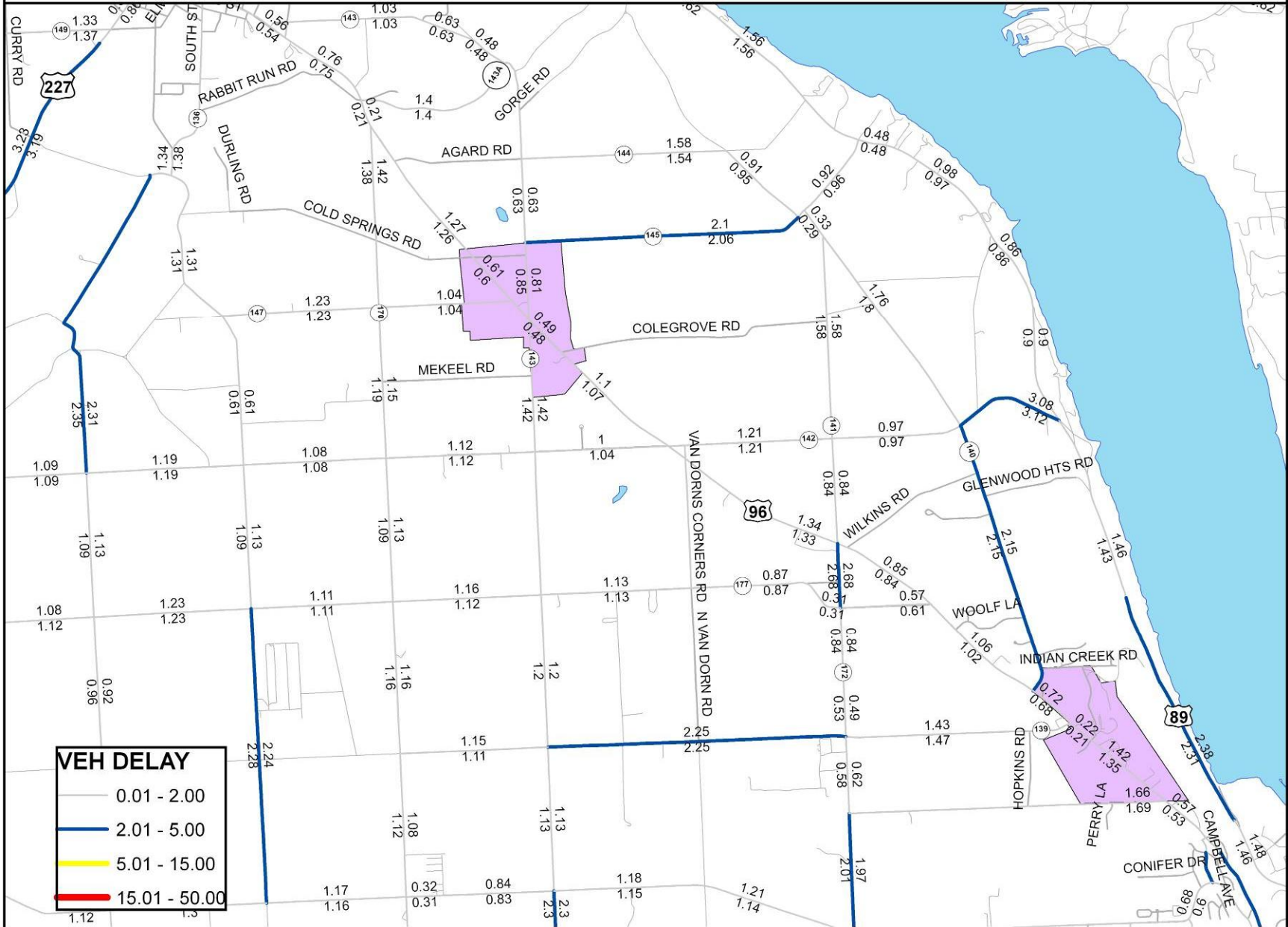


FIGURE 10 – 2028 TREND BASE CONDITIONS (DELAY IN MINUTES)  
Route 96 Study Area

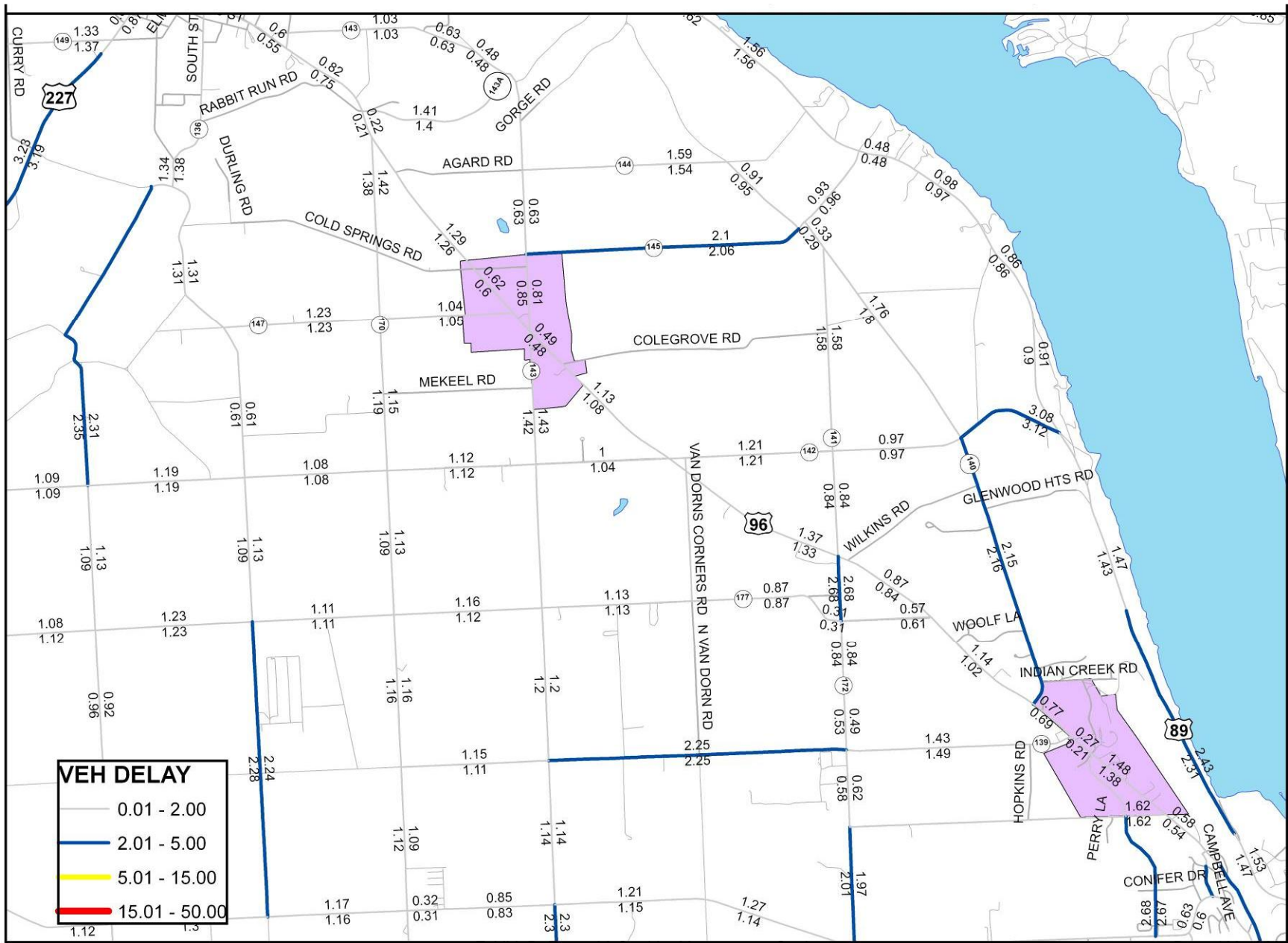
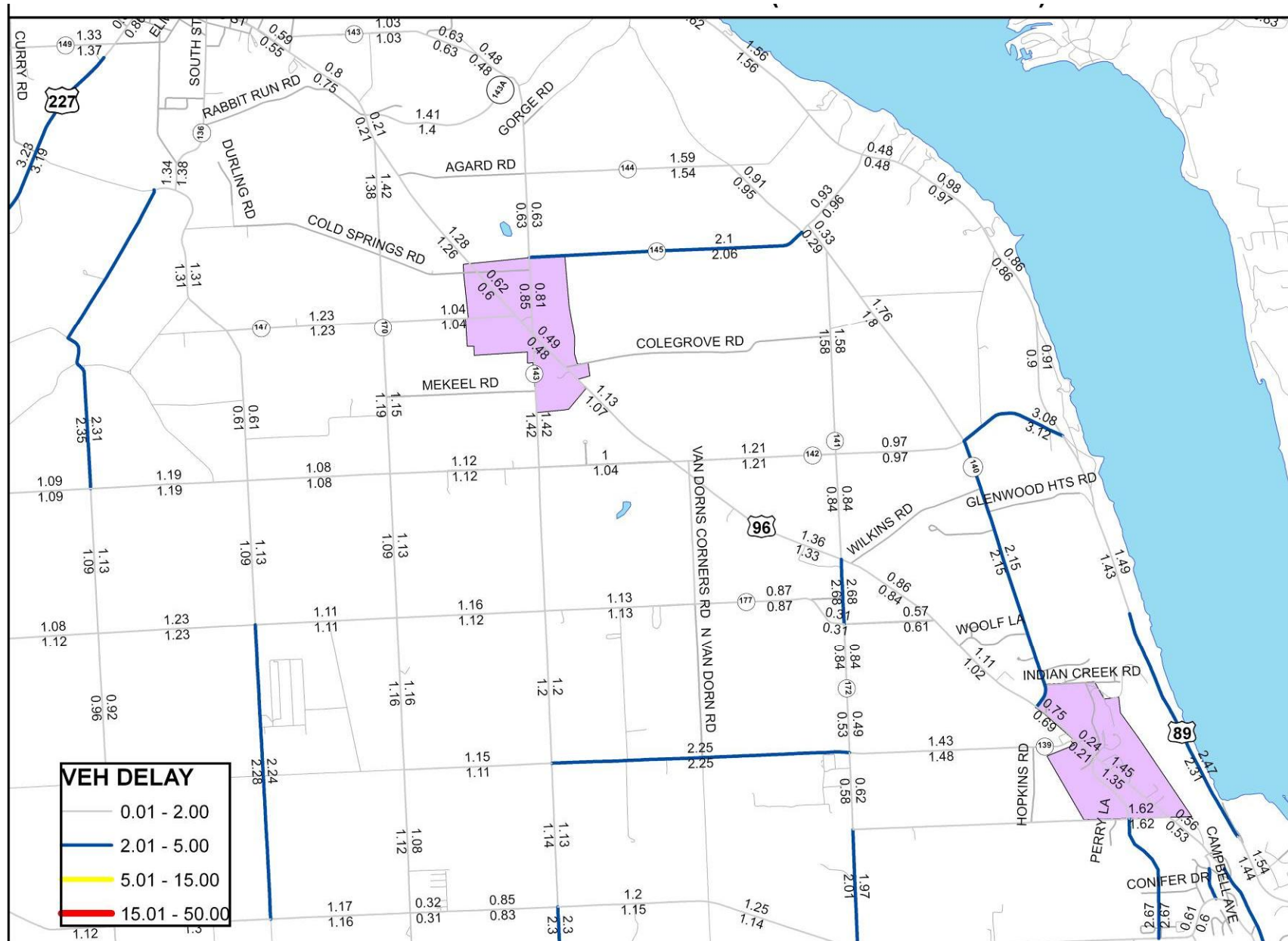


FIGURE 11 – 2028 NODAL BASE CONDITIONS (DELAY IN MINUTES)  
Route 96 Study Area





### 3.3.4. Future Traffic Operations Assessment

The projected ten year (2018) and twenty year (2028) future traffic conditions were analyzed to assess the operations of the roadway network contained in the Study area under both the trend and nodal growth scenarios. Traffic analysis software, SYNCHRO (Build 614), which is based on procedures and methodologies contained in the HCM 2000, was used to analyze operating conditions at Study area intersections. The procedure yields a Level of Service (LOS) based on the HCM 2000 as an indicator of how well intersections operate. The intersection capacity results are shown in Table 12.

TABLE 12 – INTERSECTION CAPACITY ANALYSIS RESULTS – FUTURE CONDITIONS  
Route 96 Study Area

Intersection	Future 2018 Projection				Future 2028 projection			
	Trend Base		Nodal Base		Trend Base		Nodal Base	
	AM	PM	AM	PM	AM	PM	AM	PM
Route 96/Taughannock Park Rd								
Eastbound - Rabbit Run Road	B	C	B	C	C	D	B	C
Westbound - Taughannock Park Rd	B	B	B	B	C	B	B	B
Northbound - Route 96	A	A	A	A	A	A	A	A
Southbound - Route 96	A	A	A	A	A	A	A	A
Route 96/Jacksonville Road								
Eastbound - Jacksonville Road	B	C	B	C	C	C	B	C
Westbound - Jacksonville Road	B	C	B	C	C	C	C	C
Northbound - Route 96	A	A	A	A	A	A	A	A
Southbound - Route 96	A	A	A	A	A	A	A	A
Route 96/Perry City Road								
Eastbound - Perry City Road	C	B	C	B	C	B	C	B
Westbound - Perry City Road	C	C	C	C	C	C	C	C
Northbound - Route 96	A	A	A	A	A	A	A	A
Southbound - Route 96	A	A	A	A	A	A	A	A
Route 96/Cayuga Medical Center(S)								
Eastbound - Overlook	B	A	B	A	B	A	B	A
Westbound - Cayuga Medical Ctr	C	C	C	C	C	C	C	C
Northbound - Route 96	A	B	A	A	A	B	A	B
Southbound - Route 96	A	A	A	A	A	A	A	A
Overall LOS/Delay in sec/veh	A(6.2)	B(12.6)	A(6.0)	B(12.2)	A(6.6)	B(13.7)	A(6.2)	B(12.7)
Route 96/Route 89(S)								
Eastbound - Route 96	C	B	C	B	C	B	C	B
Westbound - Route 96	B	B	B	B	B	B	B	B
Northbound - Route 89	C	D	C	D	C	D	C	D
Southbound -S Route 89	B	C	B	C	B	C	B	C
Overall LOS/Delay in sec/veh	C(20.3)	C(20.3)	C(20.3)	C(20.3)	C(20.5)	C(20.6)	C(20.5)	C(20.6)

(S) = signalized (i.e. traffic signal)

All Study intersections are projected to operate at levels of service equal to or better than average capacity levels (LOS "C") with the exception of these two approaches.

- Eastbound approach at Route 96/Taughannock Park Rd intersection during PM peak hour under trend base twenty year (2028) future conditions which is projected to operate at LOS D,
- Northbound approach at Route 96/Route 89 intersection during both peaks under all scenarios which is projected to operate at LOS D.

The following intersection approaches improve in levels of service under the nodal base scenario compared to the trend base scenario

- Route 96/Taughannock Park Road intersection - Eastbound approach during both peaks and westbound approach during the AM peak hour under 2028 future conditions
- Route 96/Jacksonville Road intersection - Eastbound approach during the AM peak hour under 2028 future conditions
- Route 96/Cayuga Medical Center intersection - Northbound approach during the PM peak hour under 2018 future conditions

It is noted that the level of service results for the AM peak hour on the eastbound approach to the Route 96/Route 89 intersection are not reflective of actual operating conditions at this intersection. The travel time surveys and video indicate that motorists on the eastbound Route 96 approach are significantly delayed during the AM peak hour due to queuing from the upstream intersections which is beyond our scope to modify the regional model for this Study. However, comparing the two growth scenarios under the same condition results in no change in LOS during the AM peak hour on the eastbound approach.

#### Total Greenhouse Gas Emissions

The Clean Air and Climate Protection (CACP) Software was used in order to estimate the total greenhouse gas emissions under existing, future trend and nodal growth scenarios. The CACP software uses the VMT output from the travel demand model as the input value for calculations. CACP software uses a passenger vehicle fleet average mile per gallon (mpg) figure to calculate fuel use and thus, greenhouse gas emissions.

CACP software estimates the following air pollutants based on the VMT estimated from the TransCAD model:

CO<sub>2</sub>: Carbon Dioxide  
NO<sub>x</sub>: Oxides of nitrogen, primarily NO<sub>2</sub>  
SO<sub>x</sub>: Oxides of Sulfur, primarily SO<sub>2</sub>  
CO: Carbon Monoxide  
VOC: Volatile Organic Compounds  
PM: Particulate Matter

The software quantifies the benefit of actions that have the effect of avoiding or reducing carbon dioxide equivalent (ECO2) greenhouse gas emissions. CO2 equivalent is a common unit that allows emissions of greenhouse gases of different strengths to be added together and allows each greenhouse gas to be weighted according to its relative contribution to global climate change. For example, methane and nitrous oxide are much less abundant than carbon dioxide in the atmosphere, but because they have a greater potential to impact global climate change, conversion into ECO2 accords them much more weight than their abundance may suggest. All outputs from the CACP software used in the table below are in units of metric tons of ECO2.

Table 13 summarizes the air pollutants obtained from the CACP software for the Existing, 2028 trend and 2028 nodal growth conditions.

TABLE 13 – AIR POLLUTANTS  
Route 96 Study Area

	Total VMT (miles/year) (in millions)	Total Greenhouse gas emissions					
		ECO2** (tons)	NOx (tons)	Sox (tons)	CO (tons)	VOC (tons)	PM10 (tons)
2008 Current Conditions	28.0	18,314	61	3	485	50	2
2028 Trend-Based Development	34.8	22,729	76	4	602	62	2
2028 Nodal- Based Development	32.0	20,901	70	4	553	57	2
Decrease between Trend VS Nodal - Difference (% Decrease)	2.80 (8.0%)	1828 (8.0%)	-6 (7.9%)	0 (0%)	49 (8.1%)	5 (8.1%)	0 (0%)

\*\* ECO2 = CO2 + CH4 + N2O

The total air pollutant and greenhouse gases are approximately 8% lower under the nodal scenario compared to the trend growth scenario.

### 3.4 Travel Time and Safety Impacts (aka Access Management)

Access management is a comprehensive approach to improving corridor safety and access. Transportation systems are designed to complement existing and future land uses along the roadways. As a result, improved access and movement are achieved in a manner that respects the surrounding community and its plans for future development. Access management does more than preserve the safety and efficiency of travel. Well-designed access systems can help preserve community character, advance economic development goals, and protect the substantial public investment in roads and highways.

Whether it is applied to a single intersection or an entire region, access management is designed to address several key issues: safety; access to goods and services; efficiency of travel; economic impact. When each of the key issues is examined, it is important to consider their relationship to one another and their collective impact on the surrounding communities. Connectivity is an



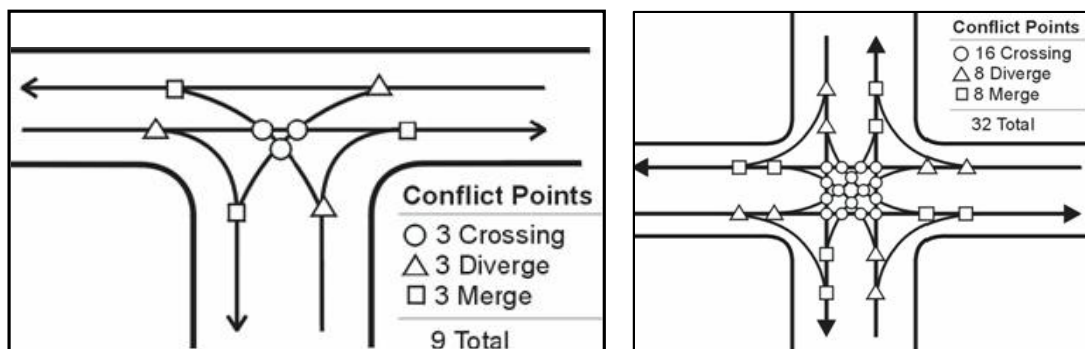
important aspect of access management. In addition to affecting how well motorists and pedestrians can access their respective destinations, access management is also inherently tied to a community's vision, sense of place and future success.

While Access Management techniques that might be appropriate in the Study area are further discussed in section 5.4.4., the following section compares the impacts of access changes resulting from the trend and nodal growth scenarios on safety and travel time within the corridor.

### Safety

Safety is one of the primary goals of good access management. The safety of motorists and pedestrians is affected primarily by traffic speed and conflicts. Traffic conflicts occur when the paths of vehicles and pedestrians intersect. Merging, diverging, stopping, weaving or crossing movements create conflict points. As conflict points increase, driving conditions become more complex and drivers and pedestrians are more likely to make mistakes and have collisions. Figures 12 and 13 illustrate the typical vehicular conflict points present in three and four-way intersections, respectively. These diagrams do not factor in pedestrian and bicycle movements, which would only further complicate the driving conditions.

FIGURES 12 and 13 – CONFLICT POINTS  
*Three and Four Point Intersections*



Using the Impacts of Access Management Techniques (IAMT) Calculator created by the Transportation Research Board, potential increases in accident rates for each growth scenario can be calculated and compared. The Route 96 corridor is divided into segments based on the locations of changes in posted speed limits. The following assumptions are made to provide input values in the Calculator:

- Access Density – under the Trend growth scenario, the number of driveways in each segment along Route 96 is increased by 10%. Under the nodal scenario driveways are only added in the segments that include the new nodes.
- Signal Density – no new traffic signals are assumed under the trend growth scenario as the driveways and traffic volumes will be spread out and unlikely to support the need for a traffic signal. One new traffic signal was added at each of the two nodes under the nodal development scenario.

- Speed Limit – No changes to speed limits are assumed under the trend growth scenario, the speed limits in the segments adjacent to the two nodes were reduced by 10 mph under the nodal scenario.

The analysis results from the IAMT Calculator estimate that the future accident rate per segment of Route 96 under the nodal scenario from 2-12% lower than under the trend growth scenario as shown in Table 14.

#### Travel Time

The IAMT Calculator can also be used to evaluate the impacts of the two development scenarios on travel times in the corridor. Table 14 also shows the travel time in minutes per mile for each segment and for the entire corridor. The travel time rate under the nodal scenario is approximately 12% to 15% higher in each direction than under the trend growth scenario as a result of two new traffic signals located at the Jacksonville and Medical Center nodes. It should be noted that while this calculator does not necessarily provide an exact estimate of the corridor travel time, it does provide an accurate comparison of the differences between the two scenarios.

TABLE 14 – TRAVEL TIME AND FUTURE ACCIDENT RATE

*Per Segment*

Northbound	Free-Flow Rate (min/mi)		Travel Time Rate (min/mi)		Speed Output (MPH)		Accident Rate change
	Trend	Nodal	Trend	Nodal	Trend	Nodal	Trend Vs. Nodal
Fulton St. to Rt. 89	2.00	2.00	9.70	9.99	6.20	6.00	-2%
Rt. 89 to Williams Glen Rd.	2.00	2.00	3.02	2.94	19.80	20.40	-3%
Williams Glen Rd. to Cayuga Medical Center	1.33	1.33	1.96	1.89	30.60	31.70	-5%
Cayuga Medical Center to Perry City Rd.	1.09	1.33	1.65	1.88	36.30	31.90	-12%
Perry City Rd. to Cole Grove Rd.	NA	NA	NA	NA	NA	NA	-4%
Cole Grove Rd. to Jacksonville Rd.	NA	NA	NA	NA	NA	NA	-6%
Jacksonville Rd. to Cold Springs Rd.	NA	1.71	NA	2.45	NA	24.50	0%
Cold Springs Rd. to Taughannock Park Rd.	NA	NA	NA	NA	NA	NA	-6%
Taughannock Park Rd. to South Village Line	NA	NA	NA	NA	NA	NA	-4%
Total	6.42	8.37	16.33	19.15			

Southbound	Free-Flow Rate (min/mi)		Travel Time Rate (min/mi)		Speed Output		Accident Rate change
	Trend	Nodal	Trend	Nodal	Trend	Nodal	Trend Vs. Nodal
Fulton St. to Rt. 89	2.00	2.00	7.76	7.13	7.70	8.40	-2%
Rt. 89 to Williams Glen Rd.	2.00	2.00	2.71	2.62	22.10	22.90	-3%
Williams Glen Rd. to Cayuga Medical Center	1.33	1.33	1.74	1.68	34.50	35.70	-5%
Cayuga Medical Center to Perry City Rd.	1.09	1.33	1.19	1.54	50.50	39.10	-12%
Perry City Rd. to Cole Grove Rd.	NA	NA	NA	NA	NA	NA	-4%
Cole Grove Rd. to Jacksonville Rd.	NA	NA	NA	NA	NA	NA	-6%
Jacksonville Rd. to Cold Springs Rd.	NA	1.71	NA	2.32	NA	25.80	-2%
Cold Springs Rd. to Taughannock Park Rd.	NA	NA	NA	NA	NA	NA	-6%
Taughannock Park Rd. to South Village Line	NA	NA	NA	NA	NA	NA	-4%
Total	6.42	8.37	13.40	15.29			

NA = The software does not provide a travel time calculation where there are no traffic signals.

## 4.0 CORRIDOR LIVABILITY AND QUALITY-OF-LIFE

### 4.1 Overview

Twelve (12) Measures of Effectiveness, or Livability Benchmarks, were developed as a means by which to consider and rank specific quality of life issues along the corridor under both the Trend and Nodal Development Scenarios. The measures of effectiveness were determined based on feedback generated by the community through the Residential Community Survey and from public comments received at the Public Information Meeting and Focus Group Meetings. Issues which were rated as high, as well as positive aspects of life on the corridor, were incorporated into the following list. Both the survey and information received at the various public meetings are summarized in further detail in Technical Report #1 of the Route 96 Corridor Management Study.

#### 4.1.1. Measures of Effectiveness (MOEs)

Each of the Measures of Effectiveness are identified below and are followed by a brief summary outlining how they are intended to be used when being considered in association with each of the development scenarios.

##### Speeding

Implications of speeding to be identified with potential for remedying problem areas based on alternative development patterns.

##### Traffic Volume

Review of current volume versus projected volumes under each scenario. Consider impacts of other factors, such as likelihood of transit use, inter-nodal trips, etc. Bus and truck traffic impacts to be considered.

##### Convenience

Consider distance to standard and daily amenities, such as supermarkets, transit, shopping, community facilities, restaurants, recreation.

##### Rural and Scenic Character

Identify impacts of development scenarios related to current land use patterns, character of area, scenic viewsheds, etc.

##### Commute Time

Consider changes to commute time based on other determined factors, such as traffic volumes.

##### Access Density

Consider how to address access and identify whether access density will improve or be worsened under each development scenario. Analysis will consider impacts of access density on drive time, accident potentials, delays exiting driveways, etc.

### Noise

Consider impacts of noise based on traffic projections.

### Connectivity

Identify connections within nodes and to surrounding nodes, as well as connections to destinations under Trend Development Scenario. Compare results.

### Transit

Compare distance to transit service and resulting frequency of service. Identify availability and accessibility to significant number of people.

### Pedestrian Safety

Consider number of designated pedestrian crossings and ability to cross roads safely. Ability to implement designated pedestrian paths and sidewalks

### Design Guidelines

Identify impacts that design guidelines may have on character of corridor. Consider ability to implement design guidelines and types that may be appropriate.

### Accident Rates

Identify traffic calming or other safety measures to help reduce accident rates.

## 4.1.2. Methodology

Each of the Measures of Effectiveness have been ranked against each development scenario to determine which development pattern would have fewer negative implications on those living along, and using, the Route 96 corridor.

For both development scenarios, each Measure of Effectiveness has been given a ranking of 1 (one) – 5 (five). A score of 1 (one) would indicate very poor livability, while a ranking of 5 (five) would indicate high or positive livability. A rank of 3 (three) would indicate average or no impact on livability along the corridor. This methodology assumes that all Measures of Effectiveness are equally important for deliberation when considering the impacts associated with each development scenario.

## 4.2 Ranking Exercise

Table 15 identifies the overall ranking and scoring for both the Trend and Nodal Development Scenarios, accompanied by narrative descriptions and supporting information. The ranking was based on projected conditions under a 20-year timeframe / build out scenario.

**TABLE 15 – MEASURES OF EFFECTIVENESS RANKING**

*Trend and Nodal Development Scenario*

Measure of Effectiveness	Livability Ranking (1 - 5)	
	Trend	Nodal
Speeding	1	4
Traffic Volume	1	3
Convenience	2	3
Rural and Scenic Character	1	4
Commute Time	1	4
Access Density	1	4
Noise	2	3
Connectivity	2	5
Transit	2	4
Pedestrian Safety	1	5
Design Guidelines	4	4
Accident Rates	1	3
<b>TOTAL</b>	<b>19 (of 60)</b>	<b>46 (of 60)</b>

As indicated in Table 15, the Trend Development Scenario achieved a total ranking of 19 points and the Nodal Development Scenario received a ranking of 46 points. A summary and explanation for how the ranking was achieved for each Measure of Effectiveness is included below, including potential impacts.

### Speeding

Speeding was the number one issue identified in the Residential Community Survey. The Trend Development Scenario would not provide any possibility for speed reduction, as it would not be warranted using NYSDOT guidelines. The Nodal Development Scenario, on the other hand, creates defined nodes along Route 96 where the introduction of greater density and activity more readily supports reduced speed limits. This scenario would likely meet DOT guidelines warranting reduced traffic speeds, particularly upon entry, traveling within, and when exiting the nodal areas.

The Nodal Development Scenario achieved a rank of 4 based on its effectiveness at controlling and reducing speeds. The Trend Development Scenario achieved a rank of 1 because it does not address speed reduction.

### Traffic Volume

The Trend Development Scenario provides few opportunities for enhancing the built environment as it continues an existing development pattern that allows for haphazard development along the Route 96

corridor. As a result, this type of development promotes widely spaced individual driveways and a lack of land use integration and internal connections, which result in greater traffic volumes.

The Nodal Development Scenario provides a greater opportunity to enhance the built environment which in turn influences travel choices. Residents with shorter walk and bike times to and from destinations, (e.g. shopping, work, recreation) are more likely to walk and bicycle. People traveling through higher-quality environments are more inclined to utilize non-motorized means of travel. The Nodal Development Scenario promotes the creation of high quality mixed use, compact development which promotes internal trips (i.e. people can live/work/shop in one location), alternate travel modes both within the node and to external destinations (e.g. walk, bicycle, transit), and results in a reduction in the overall volume of traffic added to the adjacent highway network.

The Nodal Development Scenario achieved a rank of 3 based on its potential effectiveness at reducing traffic volumes along Route 96. The Trend Development Scenario achieved a rank of 1, as it is essentially a continuation of existing traffic volumes multiplied by a greater population. Today, traffic volume is already rated as the second biggest issue along the corridor according to the results of the Residential Community Survey.

### Convenience

Under the Trend Development Scenario, daily conveniences such as drug stores, grocery stores, gas stations, shopping, restaurants, and recreation are all within a moderate drive from residences on the corridor. The Village of Trumansburg and City of Ithaca, at either end of the corridor Study area, offer the amenities needed by residents on a regular basis. However, under the Trend Development Scenario, few, if any, of these conveniences are within walking distance. If they are located within a distance that someone might feel comfortable walking or biking to, there are limited means to get there due to a lack of non-vehicular connections. Community recreation areas would continue to be located in outlying areas of the corridor and require residents to drive to them.

In the Nodal Development Scenario, it is anticipated that some concentration of retail and employment uses would be located within each node. Although non-residential growth would likely be limited until a population base has been established to support ancillary uses, there is short-term potential that smaller retail establishments could be developed as part of a residential development plan. In the long-term, there is significant potential for retailers, employers, and recreational uses to be sited in the nodes. As a result, the convenience for residents to these various uses is significantly enhanced due to the immediate proximity of these uses. Ancillary supporting uses would be within walking distance (1/4 mile – 1/2 mile) and designated multi-use paths would be available for use by residents within the nodal area. As a result, the convenience enjoyed by residents in a compact, nodal development increases because they are ultimately spending less time and money in order to enjoy the everyday amenities and services which they need. Nodal development also is characterized by the creation of community green spaces and gathering areas. Under the nodal development scenario, a community park or open space would ideally be located no more than ¼ mile from any residence, resulting in the ability for more residents to enjoy outdoor recreation.

Proximity to goods and services is enhanced under the nodal development scenario, as it is anticipated that a variety of goods and services would ultimately be provided within each node, requiring fewer outside vehicular trips. Goods and services may also be within walking distance, as a result they would not require personal vehicles to access daily conveniences. For these reasons, the nodal development

scenario received a higher livability ranking for “convenience” than the Trend Development Scenario, with a ranking of 3 and 2, respectively.

### Rural and Scenic Character

The continuation of a Trend Development Scenario along Route 96 has the potential to have a significant impact on the rural and scenic beauty which characterizes the corridor. Views to the eastern shore of the lake, to woodlots, and across open farmlands are distinguishing features of the corridor. If conventional development were to continue to occur as it has in the past, for the next twenty years, there would be more fragmentation of the natural features currently enjoyed by residents and visitors. New buildings and developments would consume open space and farmland along the road, or result in the destruction of wooded areas which would need to be cleared for the construction of new buildings. In a trend scenario, there would be few restrictions or limitations on where this new development might occur, and as a result, large amounts of land along the corridor could be developed, with very little benefit to the greater community.

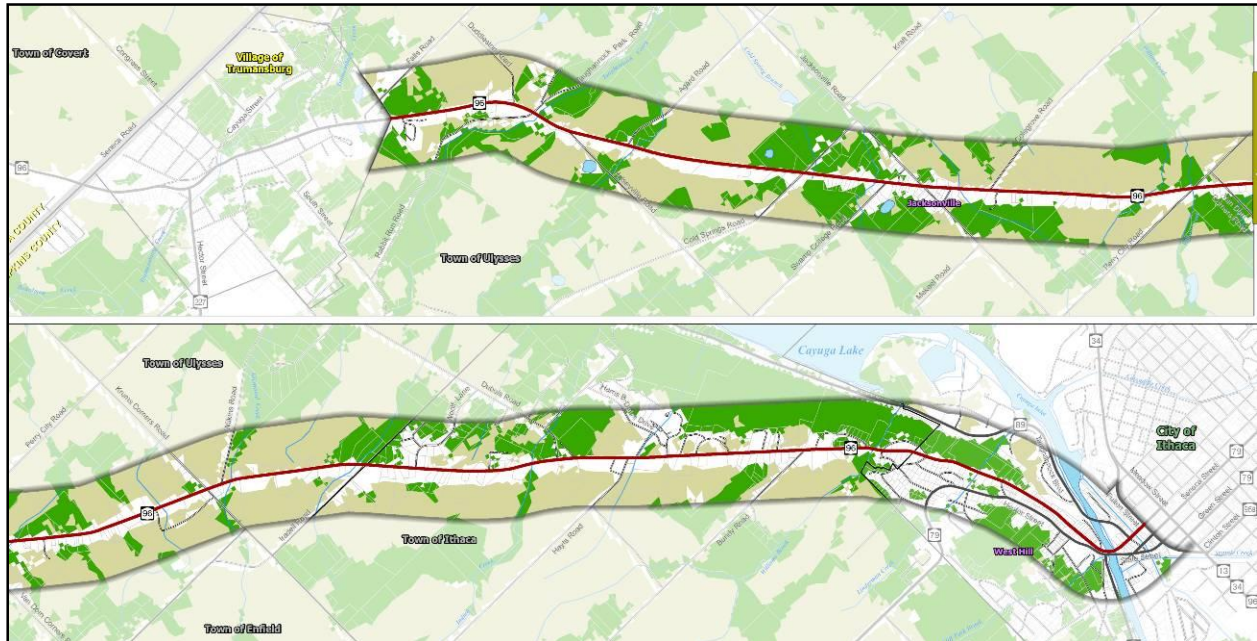
The nodal development scenario strikes a balance between allowing growth to occur along the corridor over the course of the next twenty years and protecting the unique resources and attributes that define the corridor today. By concentrating future development in designated nodes where there are no significant environmental or agricultural resources, areas located between the nodes are protected. As a result, existing scenic viewsheds, farmlands, woodlots, and other natural resources are provided a greater level of protection from destruction as a result of development and new construction. The concentration of development within the nodes would limit the impacts to these sensitive and unique features by minimizing the amount of new development occurring between nodal centers.

Persons interested in new residential developments, single family homes, commercial and business uses, and recreational service providers are not prohibited from building along the corridor, they are just guided to certain areas. Understanding that personal property rights may not prohibit any new development from occurring outside the nodes is tempered by the fact that the majority of development, through land use regulation updates in each of the Towns and City, can be focused in Trumansburg, Jacksonville, or around the Cayuga Medical Center. The Nodal Development Scenario achieved the highest possible ranking in this category due to its effectiveness in preserving the unique rural and scenic qualities that have historically drawn residents and visitors to the corridor.

Figure 14 shows the existing agricultural land and forest land along the corridor, with agricultural lands identified in tan and forest lands identified in dark green. Under the Trend Development Scenario, development could occur haphazardly along the corridor, resulting in a significant reduction in natural and agricultural lands. As a result, the Trend Development Scenario achieved a rank of 1 and the Nodal Development Scenario achieved a rank of 4.



FIGURE 14 – AGRICULTURAL LANDS AND FORESTED LANDS  
Route 96 Corridor



### Commute Time

Commute time increases as the amount of travel friction, i.e. number of traffic signals, driveways, turning vehicles, and traffic volume, on Route 96 increase. Increased travel friction and traffic volumes typically result in increased delay, lower speeds and ultimately increased travel times.

When considering land use changes associated with each development scenario, commute time under the Trend Development Scenario would continue to steadily increase over the next twenty years in association with development and population increases. Under this scenario, the number of driveways, turning vehicles, and traffic volume would increase and as a result, commute time would also increase.

Under the Nodal Development Scenario, curb cuts are reduced, traffic speeds have the potential to be reduced, and traffic volume is lowered as people choose to either make trips within the node or select alternative modes of transportation. As a result, commute times would typically decrease.

Considering the traffic and land use changes that will result from each type of development scenario, the Nodal Development Scenario achieved a rank of 4 and the Trend Development Scenario achieved a rank of 1.

### Access Density

The frequency or density of access points along Route 96 directly impacts the generation of traffic, total vehicular movements, and the number of pedestrian and vehicular conflicts. As the number of access points increases, accident rates increase, vehicular and pedestrian conflicts increase, and speeds and travel times decrease.

The Trend Development Scenario will result in a significant number of additional access points, thus increasing the potential for accidents and vehicular and pedestrian conflicts. In contrast, the Nodal Development Scenario will significantly limit the number and location of new access points along the Route 96 corridor.

Based on the above findings, the Nodal Development achieved a rank of 4 and the Trend Development Scenario achieved a rank of 1.

### Noise

Noise along the corridor is typically generated by passing traffic, including vehicles, trucks, and busses. Traffic volumes, as indicated above, are higher for the Trend Scenario than the Nodal Scenario. The Nodal Development Scenario identifies fewer vehicular trips due to the increased use of alternative modes of transportation and internal trips. A reduced number of vehicular trips along the roadway effectively reduces the amount of noise that is being created and impacting adjoining residences.

Based on the above findings, the Nodal Development achieved a rank of 3 and the Trend Development Scenario achieved a rank of 2.

### Connectivity

Trend development is defined by its heavy reliance on personal vehicles. Connectivity is largely by a complex road network which is intended to help transport vehicles from one destination to the next. Sidewalks and non-vehicle oriented connections are typically limited to larger-scale developments, such as a residential subdivision or employment center, such as the Cayuga Medical Center. There is typically little, or no consideration given to connections between these types of development. Building on past trends associated with this development pattern, it can be assumed that few new connections would be created over the next twenty years. While some regional trail initiatives are in progress that could help to create new connections, such as the Black Diamond Trail, the lack of concentrated population centers would make it difficult to define entry points and create trailhead enhancement areas that would be used enough to justify the investment in them. The very character of Route 96 today is conducive to car and truck traffic and unless major modifications were made to the roadway, it would not likely become a desirable, attractive, and safe option for heavy pedestrian usage. The distance from one destination to another would continue to be greater than  $\frac{1}{4}$  mile, the standard threshold that has been established as a comfortable distance for pedestrians.

When considering a Nodal Development Scenario, connectivity is a critical aspect of the design approach and one of the overarching goals and objectives for undertaking this type of design strategy. A nodal development scenario provides for designated connections for transit, personal vehicles, pedestrians, and bicyclists. Connections are both internal between residential, recreational, and commercial



A combination of informal (above) and formal (below) pedestrian connections contribute to an attractive and desirable neighborhood setting.

areas, as well as between nodes, whether along the roadway or through the creation of connections to off-road, multi-use trails. The concentration of population within the nodes makes entry enhancements to off-road trails more feasible. A greater number of connections, for a wider variety of users, also has indirect, positive impacts including environmental and health benefits.

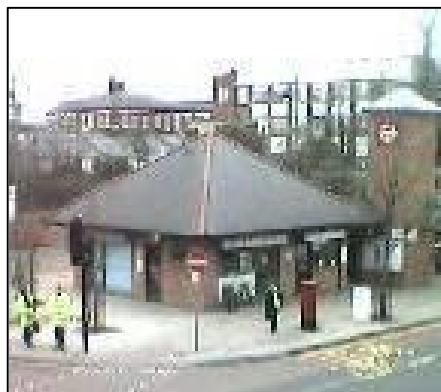
Connectivity, especially as it relates to pedestrians and bicyclists, is enhanced under the nodal development scenario. A concentration of people allows for additional transit opportunities. Inter-nodal connections, including sidewalks and formal walkways, will connect to regional trails and path networks, ultimately providing connections between each of the nodes. Because fewer connections are viable under the Trend Development Scenario, the nodal development scenario was assessed a higher livability ranking with regards to connectivity. The Trend Development Scenario achieved a rank of 2 and the Nodal Development Scenario achieved a rank of 5.

## Transit

Existing transit service along the corridor includes bus stops in the Village of Trumansburg, Jacksonville, and Cayuga Medical Center. In addition to designated bus stops, TCAT provides “flag and stop” service which allows pedestrians along the corridor to flag down a passing bus anywhere between the Village line and the City line. Transit ridership is moderate along the corridor and Tompkins Consolidated Area Transit (TCAT) does not currently have plans for expanding services along Route 96. Trend Development Scenarios would not result in population centers outside of the Village that would create a clear argument or need for additional bus stops and service enhancements. The Trend Development Scenario scores low for this measure of effectiveness because the development pattern does not lead to increased transit usage, does not offer shorter distance to transit for the average resident, and does not provide for increased frequency or transit options for the average resident. The accessibility to transit service would remain similar as it exists today.

A nodal development scenario has the ability to warrant improvements to the transit system because it offers a significant concentration of people that may potentially use the system. The concentration of people residing within a node improves accessibility to transit for a greater number of people. As a result, availability of transit may improve, the frequency of transit may improve, and the distance to which people need to travel to a transit stop is reduced because the majority of riders live in the node in which they are seeking transit service. Park-and-ride lots also become a reasonable consideration in the nodes because the population is there to help support their use.

When considering transit and how it would be impacted under each scenario, the Trend Scenario achieved a rank of 2 and the Nodal Scenario achieved a rank of 4.



Highly utilized transit stops may include a building with amenities, such as restrooms and newsstands (far left). Smaller stops can be incorporated into the architecture of a building, and still offer shelter and relief from the elements (left).

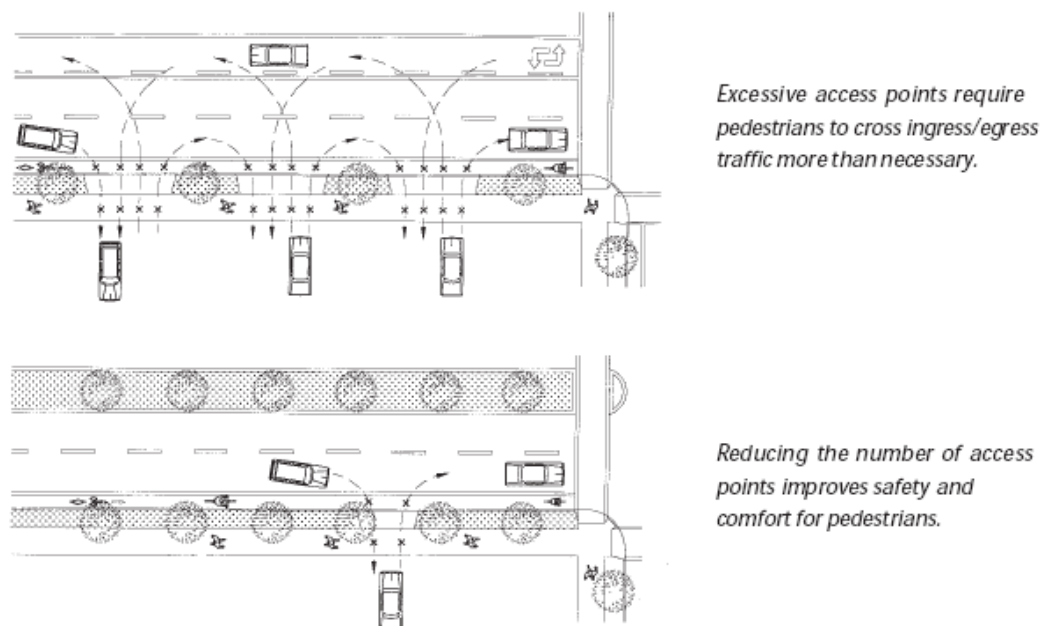


## Pedestrian Safety

High traffic volumes and vehicles traveling at higher speeds have the potential to negatively impact pedestrian safety. Under the Trend Scenario there are likely to be fewer pedestrian crossings along Route 96, fewer traffic signals to identify safe times for pedestrian crossing, and a greater number of access points, which increases potential vehicle/pedestrian conflicts. Figure 15 shows the potential impacts of access points as it relates to pedestrian safety issues.

The Nodal Development scenario provides for fewer driveways and points of conflict along Route 96 which concentrates traffic volumes and increases the potential need for a traffic signal. Signalized pedestrian crossings improve pedestrian safety. In addition, the Nodal Development Scenario provides a compact development which allows for internal pedestrian travel and reduces the need for pedestrians to access or travel along Route 96. The rankings result in 1 for the Trend Development Scenario and 5 for the Nodal Development Scenario.

FIGURE 15 – IMPACTS OF ACCESS DENSITY ON SAFETY



## Design Guidelines

Design guidelines will have a positive impact on both development scenarios. Design guidelines, under the Trend Development Scenario, could help to minimize impacts associated with scattered, road frontage development styles by creating specific criteria for building size including width and height, placement on the site, materials, relationship to surrounding sites, landscaping, placement of parking and / or support facilities, in addition to other design considerations. Specific design guidelines and criteria would seek to mitigate impacts from development on viewsheds, farmlands, and environmental resources.

Design guidelines under the nodal development scenario would have similar benefits though may go one step further by being individualized for each of the nodes, allowing the character and history of each specific node to be recognized. For instance, design guidelines in Jacksonville may build on the historic

Hamlet character and charm which exists today and require a limited scale of building that is compatible with today's development.

Design guidelines under either scenario would be most beneficial if implemented through a partnership between the Town of Ulysses, Town of Ithaca, and City of Ithaca. All three entities would need to work together to develop design guidelines and individually incorporate them into their own land development or zoning regulations. Similar design guidelines for the corridor would help to give Route 96 a cohesive character. Due to the fact that design guidelines could improve development quality under either scenario, they both achieved a ranking of 4.



*Design Guidelines and Standards can enhance and improve the aesthetic character of a development and ensure it meets the goals and objectives of the community*

### Accident Rates

In a national Study done by the Transportation Research Board, crash data showed a strong relationship between the number of access points per mile and the crash rate. There are generally 2.1 times more crashes when the number of access points increases from 10 to 40 per mile.

In the Trend Development Scenario, a greater number of access points has the potential to translate into more accidents and greater delays. There have also been recent studies that indicate that per capita traffic fatality rates are higher in trend (sprawling) development areas than areas where more compact mixed-use development occurs. This is likely a result of the need for greater vehicle travel in trend developments as well as an increase in elderly and teen driving and higher travel speeds and traffic volumes.

Increasing the spacing between access points and providing greater separations of conflicts is possible under the Nodal Development Scenario and will reduce the number and variety of events to which drivers must respond. This translates into fewer accidents, as well as shorter delays.

The Nodal Development Scenario receives a rank of 3 because it has the potential to reduce the number of access points on the corridor, thus reducing the accident rate. The Trend Development Scenario received a rank of 1 because of the increased access points that would occur in the development scenario and its implications on accident rates.

### 4.3 Summary of Results

Using the Measures of Effectiveness as a benchmark for determining the impacts of two types of development patterns on the quality of life within the Study area, it was determined that the Nodal Development Scenario has fewer negative impacts, and more overall positive impacts, on livability. Using the unweighted ranking system described above, the Nodal Development Scenario achieved a total of 46 points and the Trend Development Scenario achieved a total of 19 points.

## 5.0 OPPORTUNITIES AND CONSTRAINTS ANALYSIS

### 5.1 Introduction

The Opportunities and Constraints Analysis is intended to provide an overview of the potentials and limitations are for traffic and development along the corridor as related to each development scenario. This section of the Study also discusses strategies for minimizing traffic growth and addressing any negative implications associated with traffic growth.

### 5.2 Identification of Opportunities and Constraints

#### 5.2.1. Trend Development Scenario

##### OPPORTUNITIES

The following opportunities / benefits are associated with a trend style of development:

- Requires few, if any, modifications to existing zoning and land use regulations.
- Provides greater perception of individual privacy.
- Commonplace in the market and therefore, a known commodity.
- Requires the same amount of municipal services.

##### CONSTRAINTS

As noted in the 2004 Tompkins County Comprehensive Plan, if past growth patterns are a model for future growth both within the County and along the corridor, expected implications include:

- Loss of population in centers, such as villages and city.
- More development along road frontages and in rural areas.
- Increased traffic along rural roads and urban centers.
- Increased taxes and fees associated with population sprawl for municipal services.
- Loss of agricultural lands, environmental resources, open space, and rural character.
- Increased number of personal vehicles and increased time spent in cars.

Additional constraints associated with a trend development may include:

- Sense of unique place for the region is lost.
- Potential impacts on tourism market as region no longer has a special, unique appeal.

## 5.2.2. Nodal Development Scenario

### OPPORTUNITIES

The nodal development scenario offers compact, multi-use community centers that have the potential to offer existing and future residents social, environmental, economic, and health benefits. Opportunities and benefits associated with this type of development pattern are summarized below:

#### Social / Community

- Provides options that reduce the amount of time that people choose to spend in their cars.
- Offers shopping, conveniences, parks, and housing in close proximity to one another, resulting in more people and activity on the streets and in the parks and public spaces. When people are out they are more likely to gather and interact.
- Enhances the opportunities for community interaction.

#### Environmental

- Focuses development in areas with greatest infrastructure capacity.
- Reduces traffic volumes and sprawl, which, as a result, preserves and protects valuable agricultural land, environmental resources, and open space areas within the Town of Ulysses, Town of Ithaca, and City of Ithaca.
- Integrates natural areas, creeks, and surrounding views and open to provide residents with additional recreation areas and greenways.
- Reduces the number of vehicular trips that people are making, resulting in cleaner air.
- Creates opportunities for special grant funding for sustainable community planning and design – environmentally friendly buildings, bicycling and pedestrian features, or some type of green infrastructure could be made available and offset development costs.

#### Economic

- Creates economic opportunities for municipalities, developers, and residents. Concentrated development reduces municipal costs and allows developers to increase densities, thus reducing their costs. Lower taxes and lower purchase prices are spin-off benefits to buyers.
- Reduces infrastructure costs for municipalities by targeting growth.
- Allows developers to build more housing units, commercial structures, or other uses on a smaller area of land, therefore concentrating resources and requiring less land be purchased up front.
- Supplying a mix of housing types can stabilize a development by broadening the potential market base.
- Increases values of housing units because people understand the benefit of being close to businesses, shopping, and transportation alternatives.



## Health

- Offers access to multiple destinations without a car, resulting in access that is more realistic for a wider range of people.
- Establishes a net community health benefit as more people walk and cycle to destinations.
- Promotes an active lifestyle, resulting in reduced medical costs, reduced obesity rates, and a reduction in stress levels.

## CONSTRAINTS

The following constraints and/or issues may be associated with a Nodal Development Scenario:

- Create communities within the larger communities. This can result in a sense of place that in some instances may be perceived as separate from the surrounding community.
- Population density may not be large enough, especially in looking at 10-20 year estimates, to support the ancillary uses that are desired to make nodes place to live, work, shop, and recreate. Additional commercial and restaurant uses in Jacksonville and possibly at the Cayuga Medical Center may not be realistic in the next twenty years unless densities approach 8-10 units per acre.
- High cost of infrastructure to initiate development.
- Limited buy-in and acceptance from community - there are limited examples of this type of development in the regional marketplace.
- Requires new and improved regulations to ensure vision is implemented.
- Requires greater level of training for Planning Boards and Zoning Boards of Appeal.
- Upfront planning and design costs may be required, in part, by the municipalities or County government.
- Possible need for increased capacity for planning staff in the Town of Ulysses.

### 5.3 Preferred Development Scenario

The identification of a preferred development scenario for the Study area is based on findings from the Traffic Impact Analysis, Measures of Effectiveness Exercise, and Opportunities and Constraints Analysis. Based upon this information, the Nodal Development Scenario will have a greater chance of success to enhance the quality-of-life of residents and mitigate associated traffic impacts.

Nodal development is considered a viable option because it furthers the objectives of the communities and organizations involved in the planning process. A Nodal Development Scenario for the corridor also supports the principles, policies, and actions incorporated in the 2004 Tompkins County Comprehensive Plan. Specifically, the plan states “The development patterns reflected in the existing villages, Hamlets, and the City of Ithaca’s downtown area and neighborhoods should be promoted as key components of the built environment that greatly contribute to the vitality of the local economy and community life”. A Nodal Development Scenario fully supports the identified policies within the County Comprehensive Plan.

By concentrating development and uses in designated areas of the corridor, the Nodal Development Scenario encourages the reuse and rehabilitation of existing infrastructure while minimizing future extensions, conserves land, minimizes need for expanding infrastructure, opens opportunities for a greater variety of transportation options, promotes a stronger tax base, reduces development pressures in rural and open space areas, and creates a strong sense of place and community. The Nodal Development Scenario can increase the quantity and quality of accessibility of open space, enhance land conservation, and promote development that is respectful of the area’s natural resources and agricultural lands.

The residential density provided in a nodal development, especially in a rural community, is critical. In addition to providing additional opportunities for pedestrian and bicycle movement, the increase in the number of residents in one designated area improves the viability of public transportation, specifically TCAT bus and van services within the Study area. Once a mix of uses has been established within each of the nodes, there is also the potential for trip reductions because people living in the nodes will have the opportunity to shop and work within the node.

## 5.4 Techniques for Advancing Preferred Development Scenario

This section provides broad recommendations and techniques that will serve as the foundation for the capital, operational, and regulatory implementation projects described in Technical Report #3.

### 5.4.1. Design Principles for Nodal Development

In order for the preferred nodal development scenario to be implemented within the Study area, each of the individual communities will need to pledge to promote this type of development. Design and land use regulations will need to be developed which require future development to adhere to the goals and principles associated with this pattern of new growth. Together, a series of design principles should be established that can help further the nodal development pattern of growth. The following can provide a framework for Nodal Development Design Principles:

- Plan nodes based on a ¼ mile radiating from the central core. Mixed use, transit, and higher density housing should be at the core with reductions in density as distance increases from the center.
- Create residential areas that offer a variety of densities and styles. Ensure a range of housing price points to ensure affordable and higher end residences.
- Provide access to active and passive open spaces within 1000' of every residence.
- Provide basic streetscape amenities to make walking a desirable alternative for a range of users – including ramps, medians, sidewalks, benches, street trees for shade, trash cans, bicycle lanes or shared use paths, transit stops and shelters, and cautionary signage.
- Design streets to control speeds. This could be done through a number of traffic calming measures including changes in paving materials to differentiate vehicular/pedestrian space or landscaped medians.
- Ensure public transportation is available within every core and a minimum of 1000' from 80% of all residences.
- Limit the size of commercial uses to maintain neighborhood scale, as well as reinforce the street edge which can help to create an outdoor room or public gathering space.
- Ensure all residential neighborhoods, mixed use areas, employment centers, commercial uses, and parks and open spaces are connected by a comprehensive sidewalk and trail network.
- Create multi-use, non-motorized connections to outlying areas, in addition to those within the node.
- Develop design guidelines for architecture, landscaping, and private development.
- Integrate and enhance existing natural features within nodes. Protect natural features with appropriate buffering and design controls.
- Site parking behind buildings to ensure it is not a dominant feature of the streetscape.

Refined area plans should be completed for each of the nodes to help identify specific design opportunities and constraints and to consider how the design principles could be realistically incorporated into the overall design and development of these areas. Moreover, these plans can

serve as the basis for the development of an official map that identifies future roads and easements required for implementation of the Nodal Plan.

#### 5.4.2. Cayuga Medical Center Conceptual Plan

Preliminary conceptual renderings for the Cayuga Medical Center and Hamlet of Jacksonville nodes are shown in Figures 16 and 17. The renderings identify potential land use and site enhancements that accommodate the projected build out for each node and incorporate specific design principles intended to achieve the overall vision associated with the nodal development scenario.

FIGURE 16 – LAND USE AND SITE ENHANCEMENTS

*Cayuga Medical Center*





The conceptual rendering of the Cayuga Medical Center node identifies one build-out scenario that could occur over the next ten to twenty year period. As shown, the area would include commercial and mixed use buildings (red), single family residential (orange), and multi-family residential (yellow). The potential development scenario shown above includes 66 single family homes and 232 multi-family units (8 units per building), totaling 298 units, in addition to commercial and mixed use buildings. Additional residential units may be incorporated on the upper stories of any mixed use buildings.

On the east side of Route 96, a commercial, mixed use destination would be developed on the north side of Harris B. Dates Drive to service hospital visitors, employees, and area residents. A transit stop would be incorporated into this area and parking is intentionally located behind the buildings, off of the Route 96 frontage. North of the commercial mixed use area is a single-family residential development that is designed around a public green space and natural features. Existing woodlands create a strong visual and physical buffer around the neighborhood. An internal trail system provides direct connections internally and to surrounding uses, including the new commercial and transit area, Route 96, and Cayuga Medical Center. An indirect connection and tie-in to the Black Diamond Trail is also shown.

On the west side of Route 96, a new multi-family development is shown south of the Overlook at West Hill housing development. The development would mimic the scale of the Overlook and would also incorporate a commercial and mixed-use area to create a small-scale "Main Street" as a connector between Route 96 and the multi-family residential units.

#### 5.4.3. Jacksonville Hamlet Conceptual Plan

The conceptual rendering of the Jacksonville Hamlet node identifies a potential build-out scenario that could occur over the next ten to twenty year period. As shown, the area would include a limited amount of commercial uses (red) and single family residential uses (orange). The potential development scenario shown above includes 61 single family homes on the west side of Route 96 and 48 single family homes on the east side of Route 96, for a total of 109 units.

On the west side of Route 96 a residential development is shown that ties into the existing park, and ultimately to a connection along Route 96 south to the intersection of 96 and Jacksonville Road (the commercial node). The trend residential development has strong internal pedestrian linkages and a series of large park areas and natural features for residents to enjoy. The design of the residential neighborhood is formal, with right corners and square parks.

On the east side of Route 96, commercial development has been identified along the road frontage with parking at the rear of one building. Pedestrian links connect the parking area to other commercial structures. The character of this commercial development is intended to be consistent with the existing scale and architectural character of the historic Hamlet. Behind the commercial uses is a garden-style residential neighborhood with meandering streets, a strong trail system connecting to the commercial uses, and physical and visual buffers surrounding residences.

FIGURE 17 – LAND USE AND SITE ENHANCEMENTS  
*Jacksonville Hamlet*



#### 5.4.4. Traffic Demand Management Techniques

Transportation Demand Management (TDM), or Trip Reduction Strategies, includes techniques which are intended to improve the efficiency of existing transportation systems. These measures encourage the use of alternative transportation modes away from the single occupant car and may also include travel time flexibility as well as parking management techniques.

TDM measures that are appropriate for the Route 96 corridor include:

- Incorporating pedestrian-oriented design elements.
- Improving public transportation infrastructure, including bus stops and routes.
- Installing bicycle-friendly facilities.
- Offering active transportation facilities, including bike lanes and multi-use trails.
- Providing convenient pedestrian and bicycle connections.

As traffic increase along the corridor, the cost of gas continues to rise, and the negative impacts associated with vehicle greenhouse gas emissions continues to escalate, the need for viable alternatives to single-occupancy vehicles will continue to increase. Having an adequate selection of alternatives will maintain healthy air quality as well as the personal mobility that corridor residents desire and expect.

#### 5.4.5. Land Use Strategies

General land use and site improvement recommendations for the nodal areas are identified above in Figures 16 and 17. Specific land use recommendations for the corridor, as well as development pattern recommendations, will be included in Technical Report #3 – Recommendations for the Route 96 Corridor: Traffic and Livability.

In broad terms, recommendations include:

- Allowing and promoting a mix of uses and higher densities of development within the designated nodes;
- Maintaining outlying agricultural and farmland areas in their current use;
- Protecting important sight lines and viewsheds around the nodal areas;
- Working with TCAT to identify possible transit service expansions to accommodate a more diverse group of users;
- Creating a pedestrian circulation system within each node that allows for unhindered pedestrian movement to all destinations within node;
- Creating exterior linkages at each node to a regional trail system or existing off-road trail, such as the Black Diamond Trail, to provide a non-vehicular connection between nodes and outlying areas;
- Implementing of a signage program to alert drivers to the fact that they are required to share the road with bicyclists and pedestrians; and
- Delineating road shoulders to make them comfortable for pedestrian and bicyclist use.

#### 5.4.6. Access Management Techniques

Safe and efficient transportation infrastructure and traffic operations are fundamental to local and regional economic development. Maintaining a safe and efficient transportation system, however, requires a careful balancing between the need to accommodate through traffic and the need to provide high quality access to properties abutting the roadway. Access Management is the planning, design and implementation of land use and transportation strategies that maintain a safe flow of traffic while accommodating the access needs of adjacent development. Access

management programs seek to limit and consolidate access along major roadways, while promoting a supporting street system and unified access and circulation systems for development. The result is a roadway that functions safely and efficiently for its useful life, and a more attractive corridor. Access management techniques coordinate the development of lands and their access points. This technique can reduce the need for future costly highway improvements required to address safety and capacity issues.

#### FIGURE 18 – PRINCIPLES OF ACCESS MANAGEMENT

##### *Route 96 Corridor*

- Provide a Specialized Roadway System
- Limit Direct Access to Major Roadways
- Promote Intersection Hierarchy
- Locate Signals to Favor Through Movements
- Preserve the Functional Area of Intersections and Interchanges.
- Limit the Number of Conflict Points
- Separate Conflict Areas
- Remove Turning Vehicles from Through Traffic Lanes
- Use Non-traversable Medians to Manage Left-Turns Movements
- Provide a Supporting Street and Circulation System.

*Source: Access Management Manual by TRB, 2003*

Land developments (large or small) occurring over time, slowly increase their effect on the safety and capacity of the roadway. Developing one parcel at a time may not have a significant effect. However, as the number of developments increase, the cumulative effect is much higher than that of the individual developments. Therefore, a comprehensive approach to land use and access management planning yield the highest return from state, local, and private investment in infrastructure and land development. A comprehensive land use and access management plan also provides the land developer and the community with a strategy for meeting their other, non-transportation objectives for the corridor.



## DESIGN AND REGULATORY TECHNIQUES

The following two lists of techniques can be used to solve common traffic problems as they relate to access management. The first list provides design techniques that can be applied to the Route 96 corridor; the second list provides regulatory/land use changes that can be implemented by the municipalities that govern land use decisions throughout the Route 96 corridor.

### Design Techniques to Solve Common Traffic Problems\*

1. Limit Number of Driveways Per Lot to Reduce Intersection Conflict Points
2. Separate Driveway Conflicts
3. Minimize Left Turns
4. Promote Shared Access
5. Adopt Driveway and Street Spacing Standards
6. Promote Shared Driveway Residential Lot Design
7. Consolidate Driveways Where Possible
8. Reduce Speed Differential (speed limit reduction, turn lane and heavy duty shoulder improvements)
9. Locate Driveways Away From Intersections
10. Provide Adequate Corner Clearance
11. Maximize Sight Distance at Driveways
12. Limit Inadequate and Improper Driveway Offset
13. Utilize Bypass Lanes where appropriate
14. Promote Frontage and Reverse Frontage Roads (roads located behind buildings so that they are not visible from the main road) along Route 96
15. Promote Interconnected Sub-collector Street Network
16. Minimize Pedestrian and Vehicle Conflict Points at High Activity Areas (Parks, restaurants)

### Local Regulatory Techniques/Strategies To Solve Common Traffic Problems\*

1. Restrict the Number of Lots and Lot Types
2. Identify acceptable/desirable locations for new driveways and strictly hold new development to these locations.
3. Regulate the Location, Spacing and Design of Driveways
4. Increase Lot Width and Restrict Narrow Lot Design
5. Restrict Flag Lots
6. Design for Lot Configuration Along Local Roads and Sub-collectors
7. Promote Subdivision Access to Local Roads
8. Adopt Intensity of Use Restrictions
9. Promote Lots Fronting on Local Streets Instead of Route 96
10. Promote Deep Lots Along Route 96
11. Promote Compact Mixed Use Development
12. Designate Nonconforming Driveways
13. Develop Official Map
14. Revise Zoning & Subdivision Regulations Accordingly
15. Identify and Plan for Growth Areas

\* Source: Access Management Manual by TRB, 2003

## IMPACTS OF ACCESS DENSITY

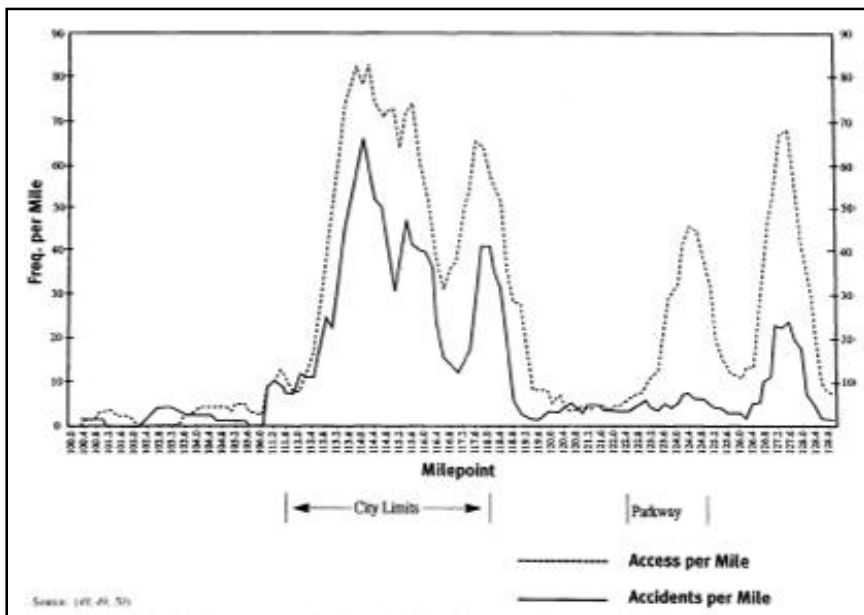
The density or intensity of land use directly impacts the generation of traffic, total vehicular movements, and the number of pedestrian and vehicular conflicts. As vehicular left-turn movements from Route 96 increase due to new development pressures, the greater the impact and delay is to motorists traveling Route 96, thus increasing the need for roadway widening.

Various design, safety, and land use elements restrict the opportunity for constructing dedicated left-turn lanes on Route 96 without significant impact to the adjacent environs. Such elements include limited horizontal and vertical sight lines, existing driveway and roadway locations, existing drainage structures, topography, right-of-way constraints, and existing land uses and sensitive natural features. The unplanned and uncontrolled use of left-turn lanes on Route 96 is detrimental to the residential and rural character of the corridor.

As shown in Figure 19, the number of conflict points along a corridor has a direct correlation with the accident rate of the facility. In other words, if the number of conflicts along a corridor can be kept to a minimum, the safer it will be to travel the corridor.

FIGURE 19 – CORRELATION BETWEEN ACCESS DENSITY AND ACCIDENT RATES

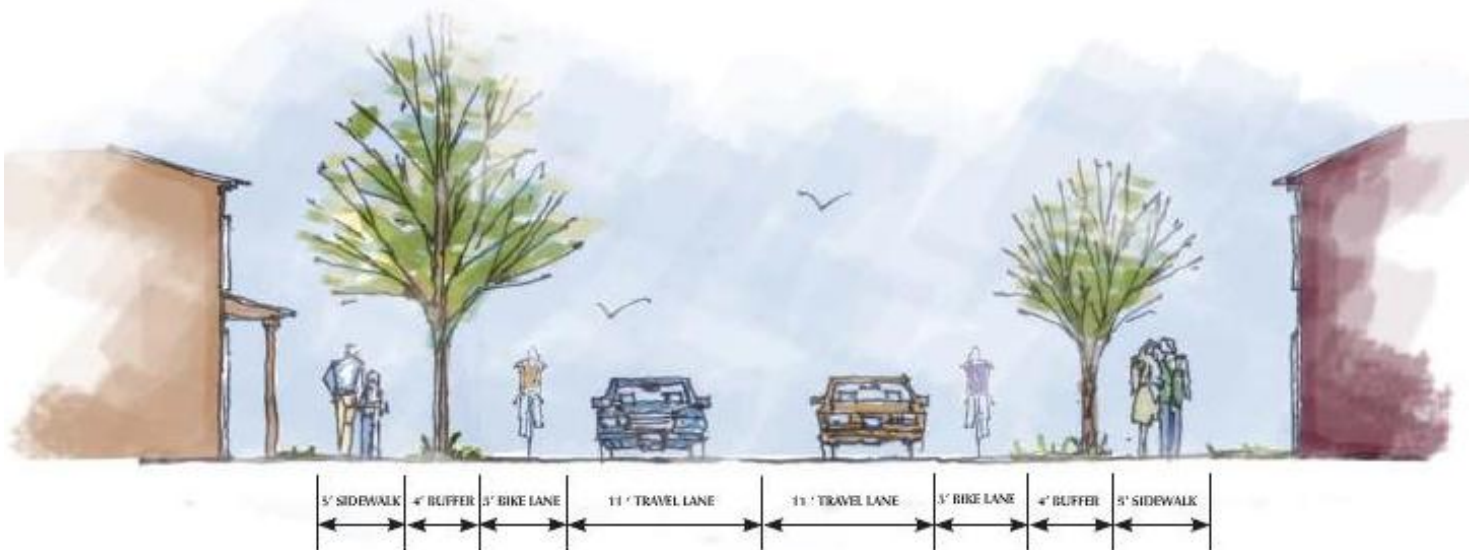
*Average Figures*



# ROUTE 96

## CORRIDOR MANAGEMENT STUDY

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### TECHNICAL REPORT #3

Final · December 2008

# Route 96 Corridor Management Study

## TECHNICAL REPORT #3

Prepared By:

Bergmann Associates  
and  
SRF Associates

in conjunction with  
The Route 96 Technical Review Committee

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## 1.0 INTRODUCTION

### 1.1 Overview and Purpose

The purpose of the Route 96 Corridor Management Study is to help the Town of Ulysses, Town of Ithaca, City of Ithaca, Tompkins County, the Ithaca-Tompkins County Transportation Council (ITCTC), and Tompkins Consolidated Area Transit (TCAT) define an appropriate approach to manage anticipated growth along the Route 96 corridor from the southern boundary of the Village of Trumansburg to the intersection of Route 96 and Route 13 in the City of Ithaca. The Study is being guided by a Technical Review Committee consisting of representatives from each of the aforementioned communities and organizations.

The study will serve as a guide to define a preferred development pattern for the corridor that is consistent with the goals and vision for each of the involved communities. It recommends strategies to reduce anticipated traffic-related impacts caused by new development, as well as increased through traffic. The Town of Ulysses, Town of Ithaca and City of Ithaca are either currently or soon to be updating their comprehensive plans and have identified the need to analyze this corridor for housing and business opportunities as well as to mitigate associated increases in traffic.

In Technical Report #2, two development scenarios were considered: a Nodal Development Scenario and a more conventional suburban style of development, referred herein as the Trend Development Scenario. When analyzing both options access management issues, improving transit services, incorporating transportation system improvements, and enhancing the overall aesthetic character of the corridor was considered. Technical Report #2 concluded that a Nodal Development Scenario had fewer negative impacts on quality of life along the corridor.

Technical Report #3 builds on the findings of Technical Report #2 by providing a series of clear recommendations and tools available to assist each of the involved communities in implementing the preferred corridor vision of a nodal development pattern.

The Corridor Management Study is being developed as a series of four written Technical Reports, as summarized below:

- Technical Report #1 focuses on Existing Conditions within the study area and lays the framework for later projections, analysis, and recommendations. Technical Report #1 provides a baseline of information relevant to the corridor from which to learn from, and build on.
- Technical Report #2 is the analysis and considerations component of the overall study and is subdivided into three main components: traffic projections, traffic impact analysis, and opportunities and constraints analysis. Each of these sections helps to identify what opportunities, issues, and obstacles exist with regards to creating a more livable and desirable corridor. Technical Report #2 concluded with recommendations for a preferred development scenario for the corridor.
- Technical Report #3 is the Recommendations document associated with the Study. Technical Report #3 includes a range of recommendations for the corridor including traffic, land use,

quality of life, and other topics deemed important by local residents and Technical Review Committee members.

- Technical Report #4 will present an Implementation framework for intermunicipal cooperation that will serve as a tool achieve and meet the recommendations and goals set forth in Technical Report #3.

## 1.2 The Study Area

State Route 96 in Tompkins County begins at the Seneca and Tompkins County lines in the northwest corner of the County and travels southeast through the Village of Trumansburg, Hamlet of Jacksonville, Town of Ulysses, Town of Ithaca, and culminates in downtown City of Ithaca at the confluence of State Route 13 and the Cayuga Inlet. The Route 96 Corridor Management Study examines the 10-mile stretch of road, including all lands within a mile the Corridor, from the southern municipal boundary of the Village of Trumansburg traveling southeast to the intersection with State Route 13 at Fulton Street.

The Corridor is rural in nature in the northwestern reach in the Town of Ulysses, reflecting the importance of agriculture, both historically and today. Traveling southeast into the Town of Ithaca, residential and commercial development increases in intensity. Finally, the Corridor culminates in the City of Ithaca, which consists of dense housing and commercial businesses.

The West Hill area is one of the areas where increased housing development has occurred and where additional potential for development exists. Much of this area is served by NYS Route 96 as the primary commuting route. The Route 96 corridor is the location of most of the commercially-zoned property in the Town of Ulysses, and planned development in the corridor is seen as crucial to economic growth in the Towns of Ithaca and Ulysses. It is a concern that increased development will worsen congestion in the City of Ithaca and impact traffic flow and livability along the entire corridor therefore, mitigating the anticipated traffic impacts related to growth is critical.

## 1.3 The Planning Process

As mentioned, the Route 96 Corridor Management Study is a collaborative planning effort between Tompkins County, the City of Ithaca, the Town of Ithaca, the Town of Ulysses, the Ithaca-Tompkins County Transportation Council, and the Tompkins Consolidated Area Transit. Representatives from each of the organizations comprise the Corridor Management Study Technical Review Committee (TRC).

### 1.3.1. Work Completed To Date

The following tasks were completed to produce Technical Report #1. Additional information on each of the bulleted efforts may be found within Technical Report #1.

- Project Start-Up Meeting with Consultant Team
- Internal Committee Meetings
- Residential Community Survey
- Data Collection and Review
- Field Review and Analysis
- Windshield Survey

- Technical Review Committee Meetings (3)
- Public Information Meeting
- Focus Group Sessions (2)
- Stakeholder Interviews (2)
- Identification of Measures of Effectiveness
- Traffic Volume Modeling
- Traffic Impact Analysis
- Opportunities and Constraints Analysis
- Identification of a Preferred Development Scenario

### 1.3.2. Current Planning Efforts

The preparation of Technical Report #3 included the completion of the following tasks:

#### Nodal Development Recommendations

Building on the design principles and nodal goals discussed as part of Technical Report #2, the consultant team developed a series of node-specific recommendations for Jacksonville and Cayuga Medical Center. The recommendations cover a range of topics including land use, vehicular circulation, pedestrian and bicycle connections, transit, traffic calming techniques, and gateway treatments. Recommendations were also identified for key issues associated with Route 96 in the City of Ithaca.

#### Land Use and Traffic Recommendations

Utilizing the same recommendation framework as for the nodal areas, the consultant team developed a series of recommendations for Route 96 outside of the nodes.

#### Specific Intersection Improvements

The Technical Review Committee identified intersections along the corridor they deemed worthy of a more detailed analysis based on existing trouble spots, traffic volumes, and/or potential future development. Project sheets summarizing recommended modifications to each intersection have been included in Technical Report #3.

#### Design Principles

A series of Design Principles have been included in Technical Report #3 to offer models for consideration for future design updates to municipal zoning regulations and design standards. The design principles serve as guidelines for how future development in the nodes, as well as outside of the nodes, should ideally be addressed. Themes addressed in the design principles include residential development, site and setting, architectural vocabulary, connections and linkages, public areas and landscaping, pedestrian amenities, and streets and vehicular spaces.



## Regulatory Recommendations

Regulatory recommendations have been developed by the consultant team to address specific changes each municipality can consider to successfully implement a nodal development pattern.

### 1.3.3. Next Steps

The next steps in the Route 96 Corridor Management Study planning process will include:

#### Public Meeting

A Public Meeting will be held October 28, 2008 at the Paleontological Research Institute to present findings from Technical Report #2 and Technical Report #3.

#### Technical Report #4

The Technical Review Committee will develop an Intermunicipal Planning Strategy that addresses both physical transportation infrastructure improvements and fosters future cross-jurisdictional collaboration for planning and development.

## 2.0 ACHIEVING THE CORRIDOR VISION

Both a Nodal Development Scenario and Trend Development Scenario (existing development pattern) were analyzed to determine the potential traffic and social impacts associated with each development type. The specific details associated with each scenario and the analysis is included in Technical Report #2 of the Route 96 Corridor Management Study. It was presumed that the same amount of growth and development would occur under either scenario; however, the form and impacts of the development would be different.

Based on the findings of the analysis, the Nodal Development concept has been embraced by each of the municipalities, Tompkins County, and interested agencies as the preferred development scenario to improve traffic conditions along Route 96 and enhance the livability for those living along, and utilizing, the corridor. Nodal development focuses future development in specific areas along the corridor, as opposed to letting growth and development occur in a free form manner, as exists today. In order to achieve the overall economic and development goals of each community, the defined nodes should incorporate a variety of uses, including residential, commercial and retail, office, institutional, and open space.

As shown in the results of the analysis in Technical Report #2, a Nodal Development Scenario can have a significant positive impact on the future of the corridor study area. Along the Route 96 corridor outside the City of Ithaca, nodal development is proposed to occur in three areas: around the Cayuga Medical Center in the Town of Ithaca, the Hamlet of Jacksonville in the Town of Ulysses, and the Village of Trumansburg. Jacksonville and Trumansburg are established population centers and Cayuga Medical Center is a major employment center.

Figure 1 – Location of Proposed Development Nodes



Figures 2 and 4, also presented in a modified version in Technical Report #2, present one example of a conceptual build out for the Cayuga Medical Center Node and the Hamlet of Jacksonville Node. These figures are not intended to show a preferred or recommended future development for these areas, but to identify the various types of development and densities that are realistic and appropriate based on existing conditions and projected population increases. Ultimately, the way that these nodes develop over time will be determined by the Village, Towns, and City, individual landowners, and developers.

For the purpose of organizing recommendations and guidelines within the Corridor Management Study, three context zones have been identified and are based on the geographic parameters established in earlier tasks associated with the planning process. Context zones include the:

- Jacksonville Hamlet Node;
- Cayuga Medical Center Node; and,
- Route 96 Corridor-wide.

In addition, recommendations have been developed for Route 96 in the City of Ithaca, as there are specific opportunities and constraints associated with the corridor within the City limits. Recommendations have also been identified for targeted intersections along the corridor. The intersections, selected by the consultant team and Technical Review Committee, were deemed to warrant an additional level of analysis based on existing conditions or projected future conditions which may require intersection improvements and modifications.

## 2.1 Cayuga Medical Center Node

### LAND USE

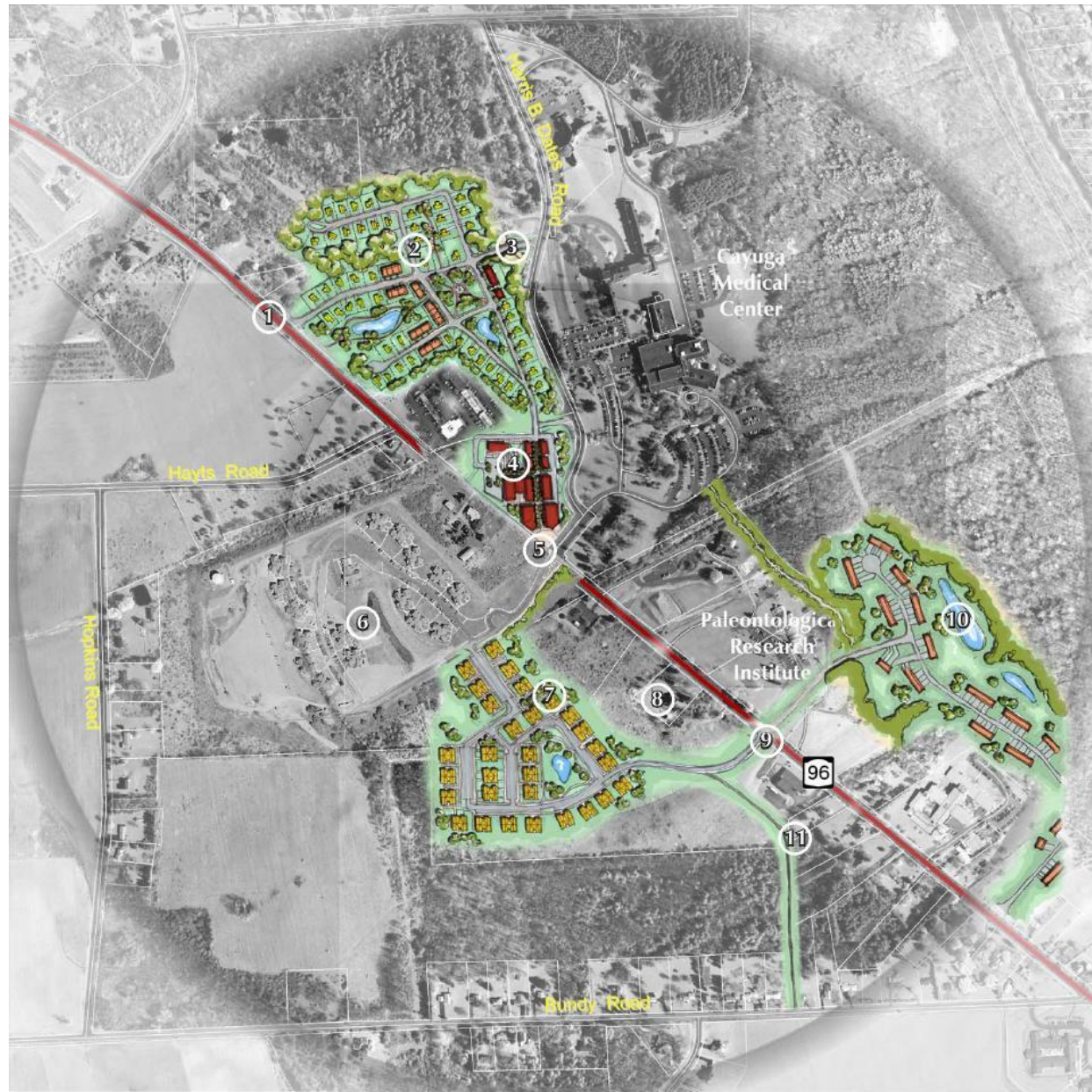
In order to complement the existing development patterns within the Cayuga Medical Center node, a mixed land use development pattern is recommended. The recommended range of uses includes community services, parks and open space, commercial, medical and general office space, institutional, and a variety of residential types including single-family homes, townhomes, and multi-family units.

Figure 2 identifies how this range of uses could potentially be incorporated within the nodal boundaries. This is a conceptual plan that shows one alternative for future development which incorporates recent and proposed developments within the immediate vicinity. Figure 2 portrays an example of how the Cayuga Medical Center area might incorporate projected future growth to achieve a dense, new live-work node. This is not a future build out concept design for this area.

Generally, the conceptual development plan shows the physical integration of land uses and potential inter-nodal linkages and connections, both vehicular and pedestrian. Design principles recommended within Technical Report #3 have been incorporated into the lay-out of this node. Annotated descriptions of key site enhancement areas are included on subsequent pages.



Figure 2 – Conceptual Rendering of Cayuga Medical Center Node



#### SITE ENHANCEMENT AREAS:

- |                                 |                                       |
|---------------------------------|---------------------------------------|
| 1 – Northern Gateway            | 6 – Existing Multi-Family Residential |
| 2 – Mixed-Use Residential       | 7 – High-Density Residential          |
| 3 – Internal Connector Road     | 8 – Future Development Site           |
| 4 – Mixed-Use Commercial Center | 9 – Southern Gateway                  |
| 5 – Transit Stop                | 10 – Pending Multi-Family Residential |
|                                 | 11 – Future Trail Connection          |

### Site Enhancement Area #1 – NORTHERN GATEWAY

The northern gateway into the Cayuga Medical Center node should be located in the vicinity of the new access drive into the new residential development in the northeast extent of the node. Gateway treatments should include signage, landscaping, a change in roadway treatments, and paving treatments, such as colored and textured crosswalks.

### Site Enhancement Area #2 – MIXED-USE RESIDENTIAL

The residential development on the northeast side of Route 96 includes single family and multi-family residences, as well as a small cluster of commercial, mixed use buildings. As shown, this portion of the Cayuga Medical Center node includes 54 single-family residences and 20 multi-family residences. Two neighborhood scaled commercial buildings are also incorporated into the development. Access to the development would occur through a series of new roads, with a new access point off of Route 96, a new access drive from Harris B. Dates Drive, and a roadway connection from the commercial center at the intersection of Route 96 and Harris B. Dates Drive. In addition to sidewalks along all roadways within Site Enhancement Area #2, off road pedestrian connections meander through community open spaces and create a pedestrian connection to the Cayuga Medical Center site. A pedestrian link also extends from the neighborhood to the Mixed-Use Commercial Center directly south of the site.

### Site Enhancement Area #3 – INTERNAL CONNECTOR ROAD

In an effort to keep traffic moving on-site and off of Route 96, a future connector road is recommended extending from Site Enhancement Area #2 to Harris B. Dates Drive. The road would connect both vehicles and pedestrians to the Medical Center and would serve to direct traffic to the main intersection at Route 96 and Harris B. Dates Drive. The pedestrian connection would provide access to the Cayuga Medical Center site from Route 96, with the anticipation that a connector trail would ultimately be developed that would extend all the way to the Black Diamond Trail.

### Site Enhancement Area #4 – MIXED-USE COMMERCIAL CENTER

The Mixed-Use Commercial Center is focused around the high volume intersection of Route 96 and Harris B. Dates Drive. As depicted, the mixed-use district reflects a Main Street character with neighborhood-scale buildings, internal pedestrian connections, a pedestrian plaza, and direct access to transit. It is recommended that this area incorporate a range of uses to service transient users of the hospital, as well as the day-to-day needs of nodal residences. The recommended mix of uses at this location includes retail and services on the main level with offices and residential units on the second and third stories.



In order to maintain a pedestrian-scaled environment, buildings should not exceed three stories in height. Landscaping and the incorporation of pedestrian amenities, such as benches, fountains, and trash receptacles, are recommended. Although parking is provided for vehicles, pedestrian linkages are depicted from the development to the residential neighborhood to the north, Cayuga Medical center to the east, and along Route 96 to developments south of the Medical Center. Square footage of commercial

and office uses, as well as any residential units, would be determined based on final design, layout, and construction of these buildings.

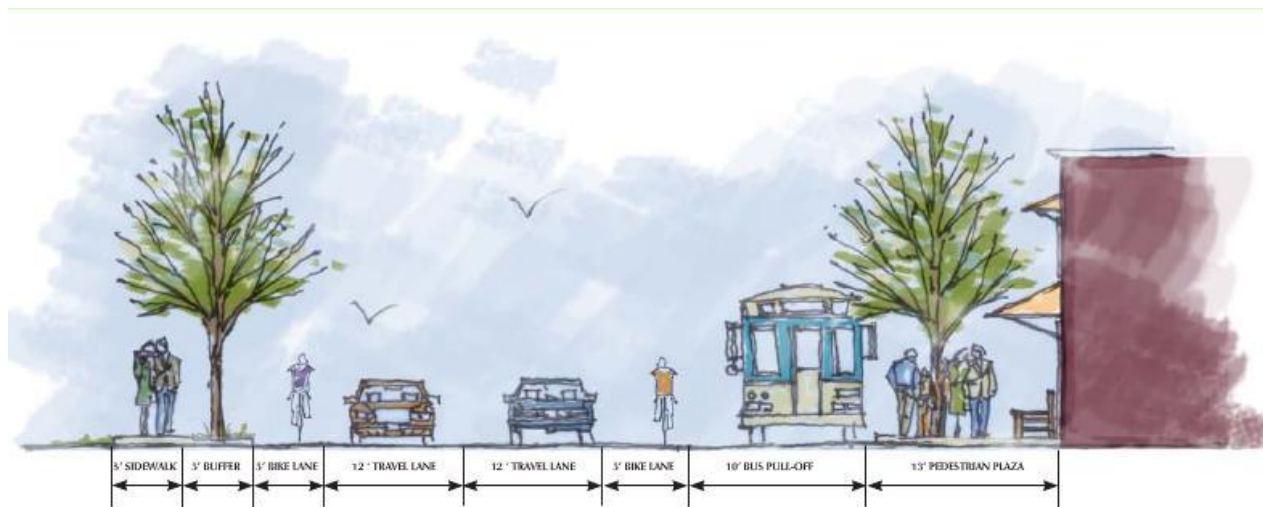
### Site Enhancement Area #5 – TRANSIT STOP

A designated, covered bus stop is recommended within the Mixed-Use Commercial Center near the intersection of Harris B. Dates Drive and Route 96. The location would allow bus service to reach a significant concentration of people without having to leave the Route 96 corridor. The transit stop would offer a covered waiting area and surrounding development would provide additional opportunities for transportation users while they wait. The transit center does not need to be a freestanding building but may be incorporated into a commercial or mixed use structure. This approach has been successfully implemented in the City of Ithaca. A bus pull-off area on Route 96 is recommended in order to ensure traffic flow along the corridor is not hindered by a stopped bus.

The new transit stop would complement the existing transit stop located in the Overlook development which could be enhanced as usage increases. Consideration should be given in the design of new development within the node to allow for the accommodation of busses, and integrated bus stops, in the future.

Figure 3 depicts a pull-off lane as well as other roadway, bicycle, and pedestrian facilities recommended for this area of the corridor.

Figure 3 – CROSS SECTION OF ROUTE 96 AT HARRIS B. DATES DRIVE  
Looking north on Route 96, from north side of intersection with Harris B. Dates Drive



### Site Enhancement Area #6 – EXISTING MULTI-FAMILY RESIDENTIAL AREA

Site Enhancement Area #6 represents existing Overlook Apartment complex that was completed in 2007 which includes 128 housing units. There is a transit stop currently located within the Overlook development that should be maintained and enhanced as the designated service stop for southbound transit service.



### Site Enhancement Area #7 – HIGH-DENSITY RESIDENTIAL

In an effort to showcase diversity in residential options within the overall node, Site Enhancement Area #7 includes approximately 232 multi-family housing units (as shown, 29 buildings with 8 units per building). This development should be designed with a continuous sidewalk system linking to the surrounding development areas, including the Overlook, transit stop, internal pedestrian networks, and other surrounding commercial and residential areas. There is the possibility that some amount of small-scale, neighborhood oriented commercial or service development could be incorporated into this area.

### Site Enhancement Area #8 – FUTURE DEVELOPMENT SITE

Site Enhancement Area #8 highlights a future development site within the node. Depending on how this node evolves, this may be a prime location for additional residential or commercial uses, or other land use not currently depicted such as an office or light industrial uses.

### Site Enhancement Area #9 – SOUTHERN GATEWAY

A new vehicular and pedestrian intersection at Route 96 is proposed immediately to the south of the Paleontological Research Institution (PRI) site. This intersection would serve to connect new residential and mixed use development on either side of Route 96 and would serve as the southern gateway into the Cayuga Medical Center node. Appropriate treatments for this gateway intersection include signage and landscaping. If a significant portion of development is located within this node, a roundabout may be warranted at this intersection in the future to control and slow traffic flow and movement.

### Site Enhancement Area #10 – PENDING CLUSTER TOWNHOUSE DEVELOPMENT

Site Enhancement Area #10 indicates a multi-family residential development currently pending approval within the Town of Ithaca. The development, as proposed, would result in the construction of 106 townhome units. The development should be well-connected to surrounding areas by a series of pedestrian links that extend to Route 96, as well as through the PRI site, connecting to an existing pathway from the museum property to the Cayuga Medical Center site.

As identified in Technical Report #2, the high-range projection for this node calls for 319 new dwelling units. The conceptual graphic for the node, when including the existing Overlook and pending development proposal adjacent to PRI, shows a total of 530 units (402 of which are new units).

### Site Enhancement Area #11 – FUTURE TRAIL CONNECTION

A multi-use future trail connection is depicted on the concept plan in accordance with the Town of Ithaca Transportation Plan. The trail would connect the nodal development area with Bundy Road, and ultimately to other destinations to the south.

## VEHICULAR CIRCULATION

The Cayuga Medical Center Node is intended for mixed use and various forms of residential development as described above. Vehicular circulation both within the node and through the node on Route 96 is crucial to the viability of the node. The speed limit along Route 96 in vicinity of this node is 45

mph. The speed limit changes to/from 30 mph at the City of Ithaca line. The only area that is curbed is in the immediate vicinity of the Harris B Dates-West Hill Drive intersection.

Analysis of the vehicular capacity at the Route 96/Harris B Dates Drive-West Hill Drive intersection indicates that the intersection will operate at average to above average levels of service under the future nodal development conditions. Therefore, no vehicular capacity improvements are required. However, left turn treatments were considered at this intersection. The addition of auxiliary left turn lanes at signalized intersections must consider many contributing factors, such as (and not limited to):

- Intersection function and setting
- Signal phasing
- Intersection volumes
- Traffic queues
- Roadway geometrics
- Vehicle delay
- Intersection sight distance
- Safety issues

Guidelines for the design and operation of left-turn lanes at intersections have been developed by AASHTO and the Institute of Transportation Engineers (ITE). Other references for design, evaluation and criteria establishing the need for left-turn lanes at intersections include the Manual on Uniform Traffic Control Devices, the New York State Highway Design Manual, and NCHRP Synthesis Reports 225 and 279. These guidelines and reference materials were reviewed along with the factors listed above. Based on this evaluation, left turn treatments were deemed unnecessary at this intersection.

The left-turn movement should be treated as a minor intersection maneuver and should be provided as the *minimum* traffic control necessary to accommodate traffic without creating *unnecessarily* long delays and/or safety problems while adequately providing for the remaining major intersection through movements.

The projected northbound and southbound left turning volumes are less than 50 vph during the peak hours. Previous review of accident history at this intersection, over a total period of nearly 5 years, did not result in identification of any accident clusters or inherent safety deficiencies that are correctable via provision of left turn treatment. Based on the existing traffic operations as observed at this intersection, and reviewing the contributing factors (offered above) as they apply to this specific location, auxiliary left turn lanes are not warranted. In addition, the incorporation of context sensitive design considerations support this recommendation.

A new four-way intersection is conceptually proposed to the south of the Cayuga Medical Center in the vicinity of the existing driveways to the Finger Lakes School of Massage and the West Hill Ithaca Fire Department station. The potential for development on both sides of Route 96 in this area may require control of right-of-way at Route 96 in the future. This control may consist of signalization or installation of a modern roundabout. The intersection should be designed with these future improvements in mind as well as consideration for pedestrian and bicycle traffic. Installation of a roundabout would achieve the goals of slowing motor vehicle traffic as it enters the node and provide a gateway treatment to alert motorists that they are entering an activity center.

## PEDESTRIAN AND BICYCLE CONNECTIONS AND FACILITIES

There are no sidewalks along Route 96 within the node and vehicular speeds appear to exceed the 45 mph posting during off-peak times. The following pedestrian and bicycle improvements are recommended within this node:

1. Install sidewalks along both sides of Route 96;
2. Install bike lanes along Route 96 within the boundaries of the nodes which connect to existing striped shoulders outside of the nodes;
3. Incorporate multi-use trails throughout the node to internally connect to sidewalks and bike lanes;
4. Incorporate sidewalks into all new developments within the node.

The Town of Ithaca Transportation Plan ranks bike lanes on Route 96 as a medium-level priority. Bicycle use within the node, through the incorporation of on-street bike lanes and internal multi-use trail connections, should be enhanced and promoted.

## TRANSIT

The Cayuga Medical Center node is already a well-utilized transit location due to the high number of employees and visitors to the site. A covered bus stop is currently located along the main entry drive to the hospital as one continues straight to the rear parking area. The bus stop is also accessible from PRI as a pedestrian path connects the two sites adjacent to the bus stop location.

It is recommended that the existing bus stop be relocated to the Mixed-Use Commercial Center site at the intersection of Route 96 and Harris B. Dates Drive. There are a number of benefits associated with this relocation:

1. the bus stop is directly accessible from Route 96, no longer requiring TCAT busses to leave the corridor and complete internal trips;
2. internal pedestrian connections should connect homes and business to the transit stop by way of a 5-minute walk, at maximum, as they are within a ¼ mile distance of the stop; and
3. transit users waiting for a bus will benefit from access to goods and services available in the mixed-use development.

The transit center will remain easily accessible to people using the existing bus stop from PRI, as internal pedestrian linkages would ultimately be developed linking all sites and amenities to create the nodal development scenario.

A park-and-ride should also be considered within the Cayuga Medical Center Node given the concentration of employees and existing and potential future residents. A park-and-ride would require further study and coordination with property owners as well as Tompkins Consolidated Area Transit (TCAT).

## TRAFFIC CALMING / CONTEXT SENSITIVE DESIGN

According to the Institute of Transportation Engineers (ITE), "Traffic calming is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users (Ewing, 1999)." Traffic calming techniques are typically used to either reduce speeds or reduce traffic volumes.

Reducing speed is a primary goal along Route 96. Traffic calming techniques that physically or psychologically alter the actual or perceived road design can be used to reduce vehicle speeds. Speed limits reductions through changing the posting alone do not typically result in significant reductions in speed since drivers tend to drive at their perceived comfortable level. A driver's perception of what is comfortable is related to road design. Traffic calming techniques are used to slow traffic using either physical changes or visual cues. Physical constraints such as curb bump-outs, medians, chicanes, and/or on-street parking create friction and may reduce speeds because drivers are uncomfortable driving at higher speeds while negotiating these constraints. However, in many cases narrowing of the roadway physically is not feasible or appropriate. Lane narrowing using pavement markings or landscaping can be implemented without physically reducing the pavement width and create the illusion that there is less space for maneuvering.

Traffic-calming measures include street narrowing, reduced speed limits, medians, designated pedestrian crosswalks, pedestrian refuge islands, roundabouts, landscaping, colored sidewalks, bike lane markings, speed-timed traffic signals and improved signage.

Design speeds for conventional suburban neighborhood streets range from a minimum of 25 or 30 mph to 45 mph. Route 96 is not a neighborhood street, it is a moderately trafficked arterial roadway. The creation of nodes along Route 96 results in village-type activity centers within which Route 96 should be treated more like a neighborhood street (similar to Route 96 treatments within the Village of Trumansburg). In a village, speeds are controlled through careful design of streets and the streetscape. On-street parking, narrow street widths, and special design treatments help induce drivers to stay within the speed limits. At slower speeds, the frequency of vehicular accidents declines, and those that do occur are less severe.

In the Cayuga Medical Center Node, the goal is to create more "active" streetscapes, involving more of the factors that slow drivers. These include narrower street widths, eye contact between pedestrians, bicyclists, and drivers; and gateway treatments to alert motorists to a change in context. The overall impact of these elements of design is enhancement of the mutual awareness of drivers and pedestrians.



*Example of a colored and textured crosswalk*



*Example of a landscaped median*

The following traffic calming tools are recommended for reducing vehicular speeds within the Cayuga Medical Center Node:

- Install curbing throughout the node with narrowed travel lanes to provide visual cues to motorists to reduce travel speeds;
- Petition NYSDOT to reduce the speed limit from 45 mph to 40 mph throughout the node (from the City line to the south to the new northerly node driveway);
- Install gateway treatments at the north and south ends of the node. Ideally these would be located at the new northerly driveway (north of Hayts Road) and at the new southerly driveway (near the Finger Lakes School of Massage and the West Hill Ithaca Fire Department station). The section below discusses potential gateway treatments.

## GATEWAY TREATMENTS

"Community gateways are a measure or set of measures strategically located as motorists enter a community which announces to motorists that they are entering a community and are no longer on an open, high-speed roadway."<sup>1</sup> A gateway provides a visual cue to highway users that they are entering an activity center. Gateways can be made through elaborate landscape and sign installations or may be as simple as some form of pavement markings.



The following gateway treatments are recommended for consideration at the Cayuga Medical Center node:

- A landscaped sign that announces the entrance to the node.
- A raised, landscaped median at the north end of the node on Route 96.
- A roundabout at the new southerly intersection of the node.



*Example: Roundabout Treatments*

Roundabouts provide two main safety benefits for pedestrians when compared to traditional intersections. First, the number of vehicle / pedestrian conflict points is significantly decreased due to the one-way circulation pattern at a roundabout. Secondly, pedestrians are only required to cross one direction of traffic at a time at each approach as they traverse the roundabout. Therefore, by decreasing crossing distances and exposure to vehicles, the likelihood of a vehicle/pedestrian conflict diminishes.

<sup>11</sup> Evaluation of Gateway and Low-Cost Traffic-Calming Treatments for Major Routes in Small, Rural Communities, Center for Transportation Research and Education (CTRE) at Iowa State University sponsored by FHWA, October 2007.

Bicyclists have the option of traveling a roundabout as either a vehicle or a pedestrian. When they choose to travel as pedestrians, walking their bicycles on the sidewalk, they realize the same benefits as pedestrians, as noted above. When traveling as a vehicle, bicyclists realize the same benefits as a motor vehicle at roundabouts, i.e. lower speeds, elimination of head on and left turn type crashes, fewer conflict points, etc. In either instance, bicycle safety is enhanced at roundabouts when compared to a traditional intersection.



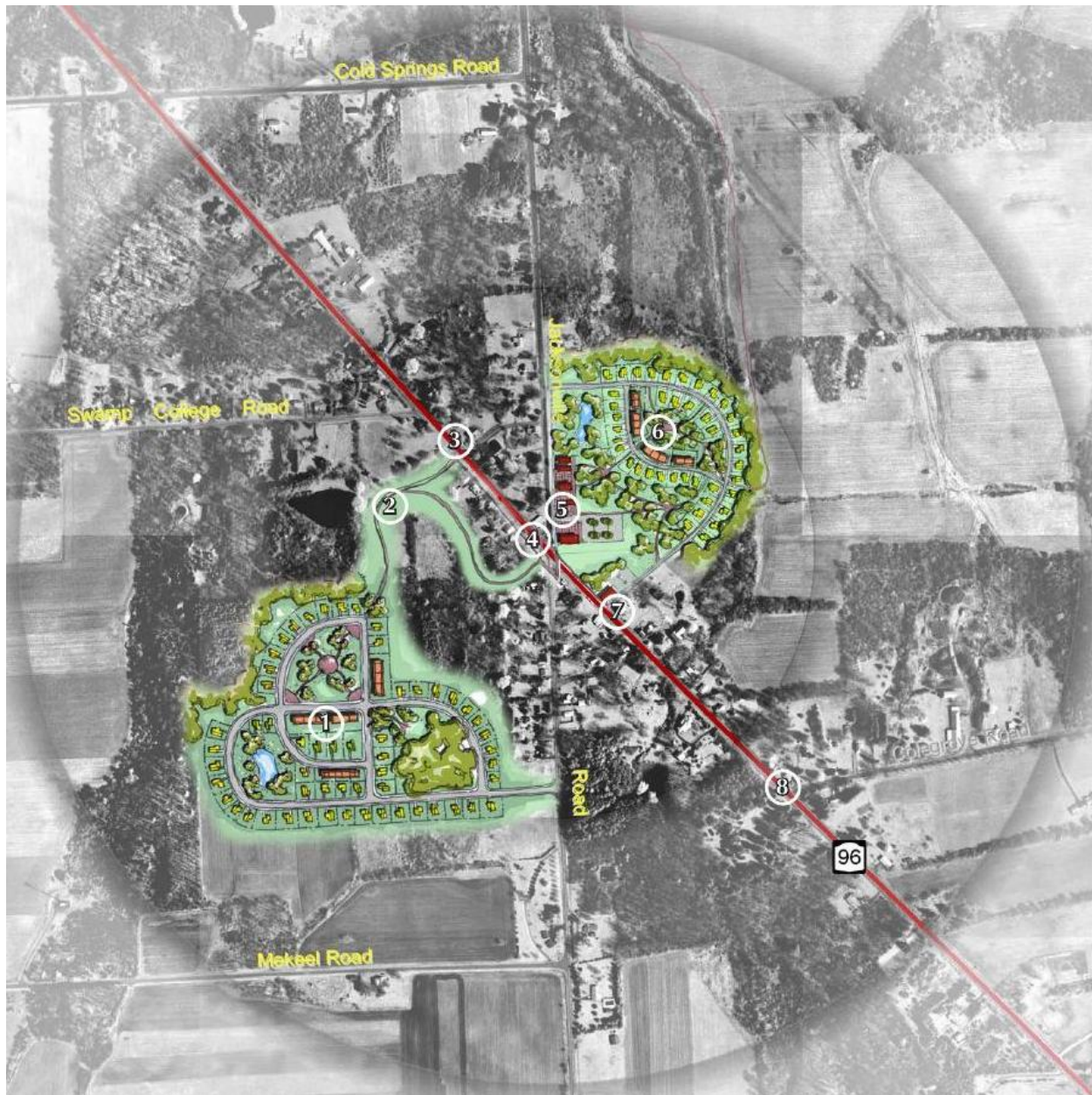
## 2.2 Jacksonville Hamlet Node

### LAND USE

A mix of land uses is recommended for the Jacksonville Hamlet Node, including commercial, office, open space, and single- and multi-family residential uses. Figure 4 shows a conceptual plan for how this mix of uses may be incorporated within the node as future development and build-out occurs. The graphic rendering depicts one future development scenario for the node, variations and changes to the development of the Hamlet will likely occur depending on municipal decisions, market forces, and other outside factors.



Figure 4 – Conceptual Rendering of Jacksonville Hamlet

**SITE ENHANCEMENT AREAS:**

- 1 – Residential Center, West
- 2 – Multi-Use Connector Path
- 3 – Northern Gateway
- 4 – Route 96 and Intersection Enhancements
- 5 – Mixed-Use Center
- 6 – Residential Center, East
- 7 – Transit Stop
- 8 – Southern Gateway

### Site Enhancement Area #1 – RESIDENTIAL CENTER, WEST

It is recommended that Site Enhancement Area #1 consist of a variety of residential types including single- and multi-family residences. The concept suggests a neighborhood with a comprehensive pedestrian network that connects a series of public open spaces, including a park area, natural woods, and a picturesque water feature. Pedestrian connectivity extends outside of the development, linking residences to the commercial portion of the Hamlet by way of a pedestrian path through the existing Community Park. As conceptually depicted, there are 52 single-family residences and 14 multi-family townhome residences. The 66 units identified in this development area equate to the total number of new housing units projected for the mid-range Hamlet population growth. When considering phasing of development within the Hamlet, this development area could reasonably be developed first, with additional build-out occurring over an extended period of time.

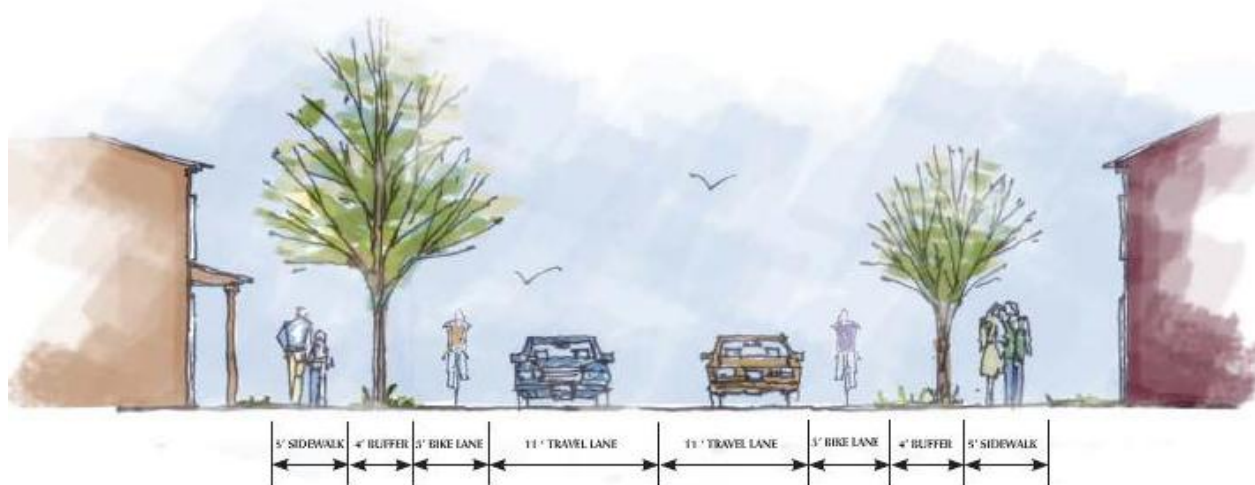
### Site Enhancement Area #2 – MULTI-USE CONNECTOR PATH

Enhancement Area #2 depicts the multi-use path which serves to connect residential areas within the Hamlet to a number of key community features, including Jacksonville Community Park, the sidewalk system recommended along Route 96, and future commercial development at the corner of Route 96 and Jacksonville Road. The path is intended to be coordinated with the park to enhance existing amenities and site features associated with Jacksonville Community Park.

### Site Enhancement Area #3 – NORTHERN GATEWAY

Site Enhancement Area #3 indicates a likely location for the formal northern gateway into the Hamlet of Jacksonville. Recommended gateway enhancements to signify entry into the node include a freestanding sign and a landscaped median to help provide a visual cue to slow traffic before reaching the activity center of the Hamlet.

Figure 5 – Cross-section of Route 96 in Hamlet of Jacksonville



#### Site Enhancement Area #4 – ROUTE 96 AND INTERSECTION IMPROVEMENTS

Route 96, as conceptually depicted, should be more pedestrian and bicycle-friendly, particularly within the boundaries of the Hamlet area. In an effort to promote safety and slow vehicular traffic through the node, it is recommended that the roadway be narrowed to include 11' travel lanes with additional existing pavement being re-designed to create a defined bike lane, tree lawn and continuous sidewalk. Intersection improvements at Route 96 and Jacksonville Road should include the incorporation of clearly defined crosswalks, preferably in a different color and material than the roadway itself.

Figure 5 shows a cross-section of Route 96 within the Jacksonville Hamlet node, south of the intersection of Jacksonville Road.

#### Site Enhancement Area #5 –MIXED-USE CENTER

Commercial and mixed use development within Jacksonville Hamlet should be focused on Jacksonville Road adjacent to the intersection of Route 96. This is a strategic location for commercial-oriented development because it allows easy access and high visibility but keeps traffic flow from stopping or slowing down directly on Route 96. A number of small-scale buildings could be established here consisting of commercial, mixed use, or office space. Recommended building configuration would be to keep active uses, such as retail or restaurants, on the first floor and to allow residential or office uses on the second story.

The scale and architectural design of the commercial buildings should be considerate and consistent with the historic character of the Hamlet. Parking areas for the commercial should be to the rear of buildings to maintain a building presence along the street. Landscaping and pedestrian plazas further help to buffer the parking area and create a pedestrian friendly environment. The commercial area remains accessible for pedestrians through a pathway network that seeks to connect the commercial uses to both residential centers within the node. Square footage of commercial and office uses, as well as any residential units, would be determined based upon market conditions and final design.

#### Site Enhancement Area #6 – RESIDENTIAL CENTER, EAST

Residential development shown in Site Enhancement Area #6 includes a mix of single-family, multi-family, and apartment style units. Conceptually, this residential area includes approximately 40 single family homes and 20 multi-family units. In order to construct this scenario, accommodations would need to be identified to handle the associated water and sewer requirements. This residential area has been designed to complement this area within the Hamlet. A recreation trail is provided throughout the residential development and connects to the commercial area along Jacksonville Road, ultimately linking to Route 96 and Jacksonville Park. There may also be the potential for a future connection to the Black Diamond Trail from within this enhancement area.

The total number of new housing units identified in this conceptual scenario is approximately 92 single family units and 34 multi-family or townhome units, for a total of 126 housing units (128 units were identified as the high-range build-out projection for this node). Additional multi-family units may be accommodated in the designated commercial/mixed use area.



### Site Enhancement Area #7 – TRANSIT STOP

The existing commercial building identified on Route 96 is a recommended location for a covered transit stop. A multi-use building would provide a seating area for those awaiting bus service as well as retail establishments, offering additional amenities and services in immediate proximity to transit users.

The existing bus stop on Route 96 should also be enhanced as a key transit location servicing people traveling south to the Cayuga Medical Center and destinations within the City of Ithaca. The creation of two transit areas could service busses in both the north and southbound direction, limiting the extra time riders must sit on the bus traveling in a wrong direction and ensuring busses do not need to make extra turnarounds. The existing bus stop on the west side of Route 96 should also be enhanced.

### Site Enhancement Area #8 – SOUTHERN GATEWAY

Site Enhancement Area #8 indicates the southern gateway into the Hamlet of Jacksonville. Possible recommended gateway treatments for this location include a gateway sign with landscaping and possible a landscape median to slow traffic as they enter the node.

## VEHICULAR CIRCULATION

Like the Cayuga Medical Center node, the Jacksonville Node is also intended for mixed use and various types of residential development. Jacksonville is an established hamlet with residential and commercial uses, a post office, and a transit stop along Route 96. The speed limit along Route 96 within this node is 40 mph although motorists typically travel over this speed limit. There is curbing throughout the Hamlet, however the travel lanes are excessively wide (approximately 21-22 feet wide). The main intersection of Route 96 with Jacksonville Road is skewed.

Analysis of the vehicular capacity at the Route 96/Jacksonville Road intersection indicates that the intersection will operate at average to above average levels of service under the future nodal development conditions. Therefore no vehicular capacity improvements are required. However, it is anticipated that traffic signal warrants may be met at Jacksonville Road in the future. Therefore, consideration should be given to installing a traffic signal in conjunction with future development and build-out of the node.

Development within this node is proposed at the northeast corner of the Jacksonville Road intersection as well as to the south and west of the intersection. New roadways providing vehicular access into the nodal development areas are currently shown as “T” intersections and should be stop-controlled at their intersections with Route 96 and with Jacksonville Road.

## PEDESTRIAN AND BICYCLE CONNECTIONS AND FACILITIES

Sidewalks are provided along the west side of Route 96, only in the vicinity of Jacksonville Road, and they are narrow and in poor condition. There are no marked crossings and the sidewalks end abruptly to the north and south of Jacksonville Road. On the north side of Jacksonville Road, the sidewalk continues around the corner and down Jacksonville Road to a dead end. The



*Existing sidewalk conditions in Jacksonville Hamlet*

sidewalk on the south side of Jacksonville Road does not extend to the corner at Jacksonville Road. The following pedestrian and bicycle improvements are recommended within this node:

1. Provide a curbed roadway section throughout the Hamlet of Jacksonville;
2. Revise the geometry of Route 96 within the node such that there are two 11' travel lanes. The remaining pavement width can either be used for an 8 feet wide on-street parking lane or can be eliminated and used to provide a bike lane, sidewalk, and buffer area;
3. Install curb-bump outs to narrow crossing widths and to delineate recessed on-street parking areas;
4. Install sidewalks along both sides of Route 96 throughout the Hamlet;
5. Install crosswalks in the north and south direction along Route 96 for pedestrians crossing Jacksonville Road as well as the new roadways within the node;
6. Provide a 5' designated bike lane along both sides of the road within the nodal boundary areas.

## TRANSIT

The existing transit shelter along Route 96 in Jacksonville should be enhanced and a recessed bus pull off should be provided, as space permits.



*Existing bus stop in Jacksonville*

## TRAFFIC CALMING / CONTEXT SENSITIVE DESIGN

The main objective of providing traffic calming in the Hamlet of Jacksonville node is to encourage motorists to travel at the posted speed limit of 40 mph. The wide expanse of pavement currently causes motorists to travel too fast through this area.

The following traffic calming tools are recommended for reducing vehicular speeds within the Hamlet of Jacksonville Node:

- Install curbing throughout the node with narrowed travel lanes to provide visual cues to motorists to reduce travel speeds;
- Delineate travel lanes at approximately 14 feet and either narrow the pavement accordingly or delineate recessed on-street parking areas with the excess pavement width.
- Provide sidewalks along both sides of Route 96 throughout the node.
- Provide curb-bump outs wherever possible to shorten crossing distances for pedestrians.
- Delineated pedestrian crosswalks should be provided on all four legs of the Jacksonville Road intersection.
- Delineate pedestrian crossings at the new roadway intersections with Route 96 within the node. Consideration should be given to providing marked crosswalks on Route 96 at these locations.

These crosswalks would likely require safety enhancements on Route 96 such as curb bump-outs and/or a raised median treatment.

- Install gateway treatments at the north and south ends of the node.

## GATEWAY TREATMENTS

The following gateway treatments are recommended for consideration at the Hamlet of Jacksonville node:

- A landscaped sign that announces the entrance to the node,
- A raised, landscaped median at the north and south ends of the node on Route 96.

## 2.3 Route 96 Corridor, Outside Nodes

### LAND USE

Future development along the corridor should be focused within the nodal areas with development outside of the nodes limited to the greatest extent possible. Any new development that occurs along the corridor, outside of a node, should be required to conform to Design Principles such as those identified in Section 3.3. The Design Principles seek to mitigate and minimize the impacts of new development along the corridor, traffic impacts associated with curb cuts, environmental impacts such as the loss of significant viewsheds, and community impacts including a change to the rural character of the corridor.

Future land use recommendations for the portion of the corridor within the Town of Ulysses are identified in the Town's Comprehensive Plan Update, which is scheduled to be completed by the end of 2008. Jacksonville is highlighted on the Future Land Use Plan as a mixed-use hamlet center, consistent with the nodal development pattern represented within this Study. All other portions of the corridor are in the Agricultural Priority Area land use classification. This land use classification implies that these lands are primarily intended for agricultural uses and should be retained in their existing natural or agricultural condition to the greatest extent possible. The plan highlights the need to focus future development in designated areas, such as the Village of Trumansburg or Jacksonville, and limit development in other areas within the Town.

The Town of Ithaca is also updating their Comprehensive Plan, with an expected completion date of 2009. The Route 96 Corridor Management Study should be referenced when developing and considering future land use recommendations within the Town, specific to the corridor. The Town should strive to ensure consistency between the Study recommendations and their Future Land Use Plan.

### VEHICULAR CIRCULATION

The nodal development plan restricts the majority of planned development to locate within the two nodes in the Hamlet of Jacksonville and at the Cayuga Medical Center. Development that is proposed outside of the nodes should be evaluated based on the following criteria with respect to vehicular circulation:

- Limit the number of new driveways permitted to access Route 96 directly. Encourage development that has access to a lesser side road to access Route 96 solely from the side road.
- Adopt municipal access management guidelines with a Route 96 Overlay District to strictly control the placement and number of new driveways within the corridor.
- Consider consolidation and/or elimination of existing driveways whenever possible, including all new development and re-development of existing parcels.

### PEDESTRIAN AND BICYCLE CONNECTIONS AND FACILITIES

Improved circulation and safe pedestrian and bicycle routes along the corridor should be a priority when implementing the recommendations of this study. While a comprehensive sidewalk network throughout the length of Route 96 is not practical, or financially viable, efforts should be made to ensure that all portions of the corridor outside of the City of Ithaca do have a striped shoulder with a minimum width of



6-8' depending on the speed of traffic in order to allow for the safe movement and circulation of pedestrians and bicyclists.

## TRANSIT

Public transportation is currently provided along the corridor by Tompkins Consolidated Area Transit (TCAT). Bus Route 21 includes the entire corridor from Cornell to Trumansburg, while Route 19 circulates from the City of Ithaca to the Cayuga Medical Center. Although there are bus stops along the route, most notably at the Medical Center, in the Hamlet of Jacksonville, and at a Park-and-Ride in the Village of Trumansburg, the majority of the service is flag-and-stop. Under a nodal development scenario which incorporates transit enhancements at population centers, it is unlikely that any additional transit stops would be justified or needed along the corridor, outside of the nodes.

## TRAFFIC CALMING / CONTEXT SENSITIVE DESIGN

NY Route 96 is functionally classified as an Urban Minor Arterial highway between the City line and Perry City Road and then changes to a Rural Minor Arterial highway from Perry City Road to the north of Perry City Road. According to Chapter 25 of the New York State Highway Design Manual, the segments of Route 96 that lie outside of the nodes fall within the designation of Category IV Facilities since the design speed in these segments is generally 50 mph or greater. Very few traffic calming treatments are permitted by NYSDOT in Category IV facilities. However, the permitted treatments are listed below:

- Pedestrian refuge, such as midblock islands,
- Bicycle facilities,
- Median treatments,
- Higher visibility crosswalks,
- Walk phase on signals.

## 2.4 City of Ithaca

A number of recommendations have been developed to address specific traffic and livability concerns in the City within the defined study area, as described below:

The intersection of Route 96 (also known as Cliff Street) and Taughannock Boulevard (or Route 89) is a crossroads of two major commuter routes for traffic entering and exiting the City. There is a heavy left turn movement from Taughannock Blvd to Route 96 which results in traffic using the intersection to compete for adequate green time at the signal. The end result is significant queuing in the eastbound and westbound directions on Route 96 during the AM and PM commuter peaks.

This congestion could be relieved by allowing traffic entering and exiting the City on Route 89 to bypass the intersection. This may be accomplished by constructing a new bridge over the Cayuga Lake inlet connecting Route 89 with Fulton Street at the existing Court Street intersection. This recommendation is consistent with previous studies completed for this area of the City.

The narrow width and steep grades along Cliff Street in the City of Ithaca present challenges for pedestrian and bicycle enhancements. Buffer plantings and fences can aid in creating a separation

between pedestrian/bicycle paths and motor vehicles. An option for alleviating bicycle/pedestrian/vehicular conflicts on Cliff Street would be to create a direct link to the Black Diamond Trail from Route 96 near the City limits. The linkage could be identified through signage and a crosswalk treatment. In addition, the Town of Ithaca has shown a new roadway and/or trail connection between Route 96 and Route 79. This connection should be pursued to further enhance the vehicular and non-motorized transportation system in this area.

In addition, a gateway treatment should be considered to identify the motorist's arrival at the City of Ithaca. A landscaped median treatment may be one possibility in the wider section of Route 96 just north of the City line. Other improvements for the Route 96 study segment within the City may include:

- Install a gateway treatment on Route 96 just north of the City line
- Improve bicycle and pedestrian accommodations through additional buffering wherever possible on Route 96
- Periodically review traffic signal phasing/timing and optimize
- Consider a new bridge connection between Route 89 and Fulton St at Court St to relieve congestion at Route 89/Route 96

## 3.0 RECOMMENDATIONS

A series of recommendations are presented to assist decision makers in each of the study area municipalities with developing guidelines for future development and identifying potential future projects. The goal of these recommendations is to mitigate traffic through a nodal pattern of development and maintaining the rural character and quality-of-life along the corridor.

Chapter 3.0 includes general recommendations for promoting safety at key intersections, preserving quality-of-life along the corridor, design principles to guide development within each node, and design principles applicable throughout the Route 96 corridor. The recommendations propose suggested regulatory language that can foster a development environment that is consistent with the goals of the Nodal Development Scenario.

The recommendations set forth below build upon the land use strategies, techniques, and principles from Technical Report #2. They offer guidance for future land use regulations within the municipalities.

### 3.1 Intersection Improvements

Five intersections were selected for a greater level of study and analysis based on their existing and potential future conditions. Project sheets, showing existing conditions as well as recommended conceptual alternatives, have been developed and are included in Appendix 1 of this report. In addition to the graphic depictions of the intersection, each project sheet includes a brief background, intersection concerns, and recommended tools.

Project Sheets have been completed for the following intersections:

- Route 96 & Jacksonville Road: recommendations include improvements for bicycle and pedestrian travel, street amenities, new curbing, recessed/delineated parking, and potential for a new traffic signal or a roundabout.
- Route 96 & Harris B Dates Drive-West Hill Drive: recommendations include improvements for bicycle and pedestrian travel, street amenities, new curbing, and potential to replace the existing traffic signal with a roundabout.
- Route 96 & New Cayuga Medical Center Node intersection: recommendations include improvements for bicycle and pedestrian travel, street amenities, new curbing, and potential for a new traffic signal or a roundabout.
- Route 96 & Taughannock Boulevard: recommendations include improvements for bicycle and pedestrian travel, signal phasing/timing improvements, and the potential for a new bridge connection between Route 89 and Fulton Street.
- Route 96 & Krum's Corners Road: recommendations include replacing existing warning signs with new style, larger signs and removing vegetative obstructions.

### 3.2 Corridor Livability Recommendations

Findings from the Residential Community Survey, Business Focus Group meetings, April Public Meeting, and Technical Review Committee meetings identified areas of concern for those living and using the corridor, as well as positive aspects of the Route 96 corridor within the study area. Recommendations to improve existing conditions and the quality-of-life of corridor residents and business owners have been identified below in response to those issues and opportunities that were defined through the various public forums utilized during the planning process associated with the development of this Study.

#### SPEEDING

Traffic speed was identified as the top concern for corridor residents who responded to the community survey. Opportunities to reduce traffic speeds along the corridor are limited due to its classification as a State Route and NYSDOT guidelines. Although actual traffic speeds may not be applicable on Route 96, there are physical and visual cues that could be incorporated along the corridor to help slow the rate and speed of traffic. Potential cues to slow traffic along the corridor include:

- Improved Signage
- Landscaping
- Reductions in roadway width
- Landscaped medians in nodal areas
- On-street parking in nodal areas

#### TRAFFIC VOLUME

Traffic volume was also identified as a significant issue for those that live and work within the study area. Traffic volumes today are driven by a lack of internal connections, individual driveways, and a lack of land use integration. Recommended methods to reduce traffic volumes along the corridor include:

- Enhance public transportation services to make it a more desirable option by improving access, accommodations, and convenience
- Promote nodal development that allows people to live, work, and shop without having to drive on corridor

#### RURAL AND SCENIC CHARACTER

The rural and scenic character of the corridor was rated as one of the greatest benefits and positive attributes associated with living on, working on, and traveling along the corridor. Design and zoning requirements could be established and incorporated into municipal regulations to preserve, protect, and enhance the rural and scenic character of the corridor into the future. Recommendations to ensure the character of the corridor is not negatively impacted by future development include:

- Update zoning controls to limit the types of development permitted along the corridor
- Update zoning controls to establish a minimum lot size and maximum building coverage
- Require all future development to identify environmental impacts of development
- Identify scenic views along corridor

## CONVENIENCE

The lack of convenient access to goods and services was also identified as a concern by corridor residents. Similar to traffic volume, the lack of integrated land uses and the distance required to travel from one good/service to another is a negative aspect of corridor living. Potential methods to improve convenience for corridor residents include:

- Promote nodal development concept that incorporates a mix of uses within a designate development area, reducing the number of outside trips residents and workers need to make to access everyday goods and services

## COMMUTE TIME

Commute time was also identified as an issue by area residents, with specific areas of concern around the City of Ithaca and at the Cayuga Medical Center where there is the greatest potential for delays due to traffic signals. In addition to traffic signals, commute time may be increased in association with increased traffic volumes and an increased number of access points. The following recommendations could be implemented to ensure that commute time is not unnecessarily increased along the corridor:

- Replace existing traffic signals with roundabouts whenever possible
- Install roundabouts in lieu of traffic signals when new signals are warranted
- Limit the number of curb cuts for new developments
- Periodically review traffic signal phasing/timing and optimize whenever possible
- Consider providing a new bridge connection between Route 89 and Fulton Street at Court Street to alleviate congestion at the Route 89/Route 96 intersection. This would reinforce the City street network and redistribute traffic in the most congested part of the City of Ithaca.

Any improvements, particularly in the vicinity of the Cayuga Medical Center, must consider the impact on emergency vehicles. However, it is noted that emergency vehicles have priority at all types of intersections and that other motorists must yield to emergency vehicles whenever necessary. Roundabouts provide a higher degree of safety in terms of less conflicts and less potential for severe crashes as compared to traffic signal controlled intersections. There are fewer collision points and injury producing right-angle accidents are eliminated. This is true for traditional vehicles, as well as emergency vehicles.

## ACCESS DENSITY

The number of driveways a user experiences on a daily basis has impacts on their overall travel experience. A higher number of driveways over a short distance impacts traffic generation rates, travel times, vehicular movements, and vehicular / pedestrian conflicts (safety). The design principles for areas outside of the nodes (Section 3.4) identify ways to mitigate the impacts associated with access density. A summary of potential recommendations is included below:

- Promote the consolidation and sharing of driveways
- Promote property access from existing secondary roads off of the corridor when possible

## NOISE

The noise generated by corridor traffic was identified as a concern by those residing along the corridor. Recommendations for reducing the impacts of traffic noise include:

- Promote a nodal development scenario that will result in reduced trips and traffic volumes which result in increased noise
- Buffer plantings or barriers along Cliff Street portion of Route 96
- Encourage reverse frontage for all new development and redevelopment of houses on Cliff Street

## CONNECTIVITY

Residents indicated that connectivity and the relationship of land uses has the ability to impact the overall quality-of-life experienced by corridor residents. The lack of mobility options and access to alternative modes of transportation was identified as a negative aspect of living along the corridor. Improving conditions associated with alternative modes of transportation, connections, and linkages could be achieved through the implementation of the following:

- Multi-use trails within nodal areas connecting neighborhoods
- Sidewalks and bike lanes incorporated into nodal areas
- Striped shoulders on corridor outside of nodes for use by bicyclists and pedestrians
- Connections to existing and proposed recreation trails, such as the Black Diamond Trail

## TRANSIT

Increased transit use would help to mitigate many of the negative aspects identified with living along the corridor and many residents have identified that they would be interested in using transit if it became more accessible to them. Although there are not currently plans to increase transit routes within the study area, expand bus stops, or add a park-and-ride, projected future growth may require that some of these changes occur in the future. Short-term projections would not likely result in significant changes, as current routes are often underutilized and have the ability to capture a larger number of riders. The following considerations should be incorporated into future decision-making with regards to transit:

- Tompkins County and each of the involved municipalities should continue to work and coordinate with TCAT as future development occurs to define whether any changes to the existing public transportation system are warranted.

## PEDESTRIAN SAFETY

Pedestrian safety is an obvious concern along the corridor due to the high volume of traffic and rates of speed in which traffic travels. The lack of sidewalks outside of the City of Ithaca limits requires pedestrians to walk within the shoulder of the roadway which, although provides adequate room for walkers, may also be perceived as unsafe because there is no clear barrier between vehicles and pedestrians. Improving pedestrian safety, and the perception of safety, may be possible through the implementation of the following measures:

- Visual cues to slow traffic, improving the perceived and real safety of pedestrians
- Reduced speed limits within the nodes

- Pedestrian crosswalks

## ACCIDENT RATES

In an effort to reduce the number of accidents along the corridor, the following recommendations could be implemented by each of the individual municipalities:

- Adopt access management guidelines including, but not limited to, limiting the number and location of access points, limit left turns, require shared driveway and cross access whenever possible.

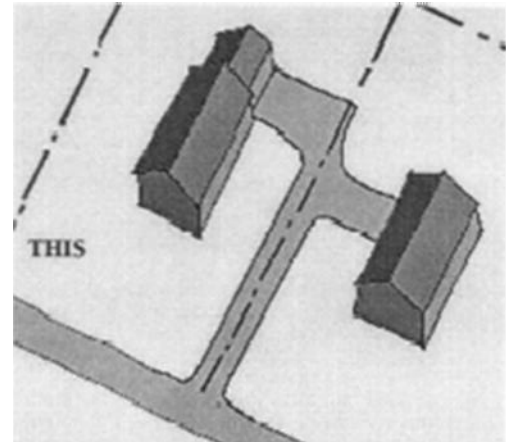


### 3.3 Outside Node Design Principles

#### Access Density

Access density along the Route 96 corridor impacts traffic speeds, accident probability, and safety for pedestrians and vehicles using and accessing the corridor. Design principles should be incorporated into future zoning updates for the corridor to ensure future driveways and curb cuts are incorporated in a manner that promotes the safety and effective use of Route 96.

- Limit driveways to one per parcel.
- Encourage access to properties from side roads when possible.
- Adopt Access Management Guidelines that clearly define the distance and number of access drives allowed along Route 96 in each municipality.
- Promote the consolidation of driveways.
- Maintain a minimum frontage of 300' along Route 96 if parcels are subdivided.
- Consider eliminating additional driveways when properties with more than one driveway are redeveloped.

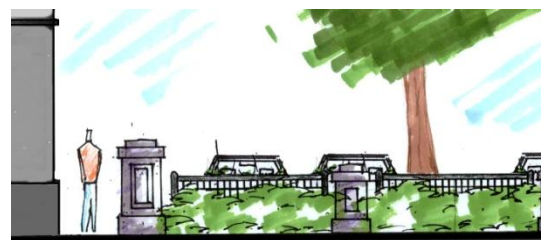


*The consolidation and sharing of driveways to limit curb cuts is preferred along Route 96*

#### Parking

Parking lots are typically characterized by expanses of asphalt which detract from the aesthetic, natural character of a rural landscape. Design principles which mitigate the impacts of parking areas should be incorporated into future zoning and design standards. Recommended design principles include:

- Restrict parking in the front yard.
- Locate parking areas at the rear of a building when possible and should strive to be invisible from Route 96. When not feasible, limited parking may be allowed in a side yard area.
- Land bank parking areas on a case-by-case basis for new development along the corridor.



*Rendering depicts parking at rear of building which is visually screened from surrounding uses and roadways*

## Architectural Vocabulary

Maintaining the scenic character of the corridor is an important goal and objective for each of the involved communities. Recommended design principles should incorporate and build upon existing conditions and reflect the desired character for the corridor.

- Reflect the style of building typically associated with a rural setting for all new non-residential development. Appropriate styles may include farmhouses, barns, country stores, industrial farm operations, and other farm outbuildings.
- Incorporate design elements that are consistent within a rural setting.
- Limit building heights to 36 feet. Special exemptions may apply to specialty farm structures, such as silos.



*Rural architectural styles are appropriate for future commercial development along the corridor.*

## Pedestrians and Bicyclists

Considering recent trends, walking and bicycling will remain an increasingly important mode of transportation both within nodes and along the Route 96 corridor. Accommodations to provide a safe environment for these alternative modes of transportation should be considered and incorporated as appropriate.

- Incorporate a striped shoulder, at least 6' in width, along the entire length of Route 96 outside of the nodal areas.
- Include bike lanes throughout the corridor as well as within nodes to promote and support increased bicycle usage. Through the Town of Ulysses and Town of Ithaca, wide shoulders exist for use by bicyclists. These should tie into recommended bike lanes within the nodal areas, as well as other existing and future multi-use trail connections.
- Identify possible future connections from Route 96 to the Black Diamond Trail, including near the entrance of the City of Ithaca.



*Existing shoulders should be enhanced and maintained for use by bicycles and pedestrians outside of the nodal areas.*

### 3.4 Nodal Design Principles

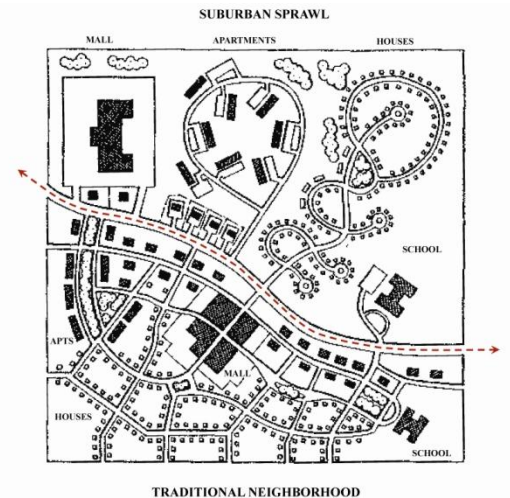
The following design principles and recommendations have been established and can be applied to the Cayuga Medical Center and Jacksonville Hamlet nodes. The design principles have been established under the following headings:

- General Design Principles;
- Residential Development;
- Site and Setting;
- Architectural Vocabulary;
- Connections and Linkages;
- Public Areas, Open Space, and Landscaping;
- Pedestrian Amenities; and
- Streets and Vehicular Spaces.

## General Design Principles

General design principles include those guidelines and recommendations which will help to create a foundation for achieving the nodal development scenario.

- Develop nodes so the central core is within a ¼ mile radius from transit stops and a ½ mile radius from services.
- Focus the most intense concentration of land uses around the central core with reductions in density as distance increases from the center.
- Encourage a mix of land uses throughout the node, as well as within individual buildings, when appropriate.
- Develop commercial and retail areas to be neighborhood oriented and of a neighborhood scale.
- Allow a mix of land uses that include the following: single-family residential, multi-family residential, commercial, retail, office, institutional, parks and open space, and community services.



*Image depicts the character of a concentrated development pattern versus a suburban pattern*

## Residential Development

Design principles for residential development will help enhance the character and diversity of residential options within the nodes.

- Incorporate a variety of residential densities and styles within each node, including single-family residential, townhomes or two-family homes, and multi-family units.
- Ensure a range of housing price points to ensure a mix of affordable and higher end residences.



*Single family residential in the Village of Hammondsport*



*Example of Higher Density Single Family Residential*

## Site and Setting

The placement of buildings on an individual parcel, as well as in context to the corridor and entire node, is important to identify the desired community character for the area.

- Site commercial buildings along main streets which are internal to the nodes to reinforce the nodal street edge.
- Site new development off of Route 96, with only limited access to the development off of the corridor. The majority of roadways should be internal to the development, minimizing access cuts along Route 96.
- Site new construction to reduce physical and visual impacts to existing natural resources and sensitive features, such as streams.



*In the Hamlet of Cheshire, NY buildings are located close to the street and reinforce the street edge.*

## Architectural Vocabulary

The architectural vocabulary established within the nodes should enhance and build upon the existing character, particularly in an established node such as Jacksonville. Architectural design principles could be considered by each municipality when updating zoning ordinances or developing design guidelines.

- Ensure the scale and design of all buildings is consistent with surrounding existing building styles. This is particularly true in the Hamlet of Jacksonville where a concentration of historic buildings representing the original development of the Hamlet still exist.
- Design infill development to be compatible with the average height, massing, and width of surrounding buildings.
- Scale commercial and mixed use buildings in a manner that does not overtake adjacent residential buildings. The scale of commercial and mixed use buildings should be consistent with the overall nodal development pattern.
- Proportion building facades, particularly at street level, using windows and entrances, and should be no less than 60% of the façade.
- Incorporate awnings on commercial and mixed use buildings to enhance the pedestrian scale of these areas and create an outdoor roof.



*The existing character and scale of the Hamlet of Jacksonville should be retained in new building design*



- Place building entrances along the main roadway on which they are located.
- Ensure building heights do not exceed 2 stories, or 30 feet, in the Jacksonville Hamlet node.
- Ensure buildings do not exceed 3 stories, or 40 feet, in the Cayuga Medical Center node.
- Use appropriate, natural materials such as wood, stone, and brick. Large scale fabricated materials, such as concrete block, concrete masonry units, and EIFS, should be prohibited.

### Connections and Linkages

Strong connections and linkages are an integral component to the creation of a successful nodal development scenario. Incorporation of the design principles into future design guidelines will ensure that non-vehicular mobility and options for circulation are incorporated into the nodal development areas.

- Connect all land uses and development areas within the node by a comprehensive sidewalk and trail network.
- Create non-motorized, multi-use connections to connect the nodes with outlying areas, to the extent appropriate.
- Apply the *ADA (Americans with Disabilities Act) Standards for Accessible Design* criteria to all projects when designing and improving roadways and pedestrian facilities.



*Sidewalks in residential neighborhoods link to the commercial core of the Village of Shortsville, NY*

### Public Areas, Open Space, and Landscaping

The nodal development concept focuses on creating public spaces, fostering human interactions, and expanding opportunities for residents and visitors to meet on the street, in a park, or on a trail. Design principles focus on creating opportunities for people to enjoy and share public areas by establishing criteria that make public places accessible, enjoyable, and safe.

- Locate active and passive open space opportunities within 1,000' of every residence.
- Integrate and enhance existing natural features within the node. Protect natural features with appropriate buffering and design controls.
- Incorporate canopy trees into site design, especially in public areas and along sidewalks, in order to



*Public open space, as in the Village of Hammondsport, should include amenities, linkages to surrounding development and be located within 1000' of homes*

provide shade and comfort to users.

- Provide ample seating opportunities at regular intervals along sidewalks.
- Plant one (1) street tree for every 40 feet of street frontage.
- Incorporate pedestrian-scaled lighting along Route 96, activity areas, and along pedestrian routes. Pedestrian-scaled lighting should be of a design consistent with the overall architectural character of the node and should not exceed 12' in height.
- Maintain lighting within nodes in conformance with the guidelines of the Illuminating Engineering Society of North America.



*Street trees, such as those in West Chester, PA, help to soften a commercial oriented mixed use streetscape and provide an added to comfort for pedestrians*

## Pedestrian Amenities

When focusing development on the framework of creating a livable, walkable environment, it is necessary to ensure that pedestrians are provided amenities that make walking a desirable, efficient, and worthwhile alternative.

- Ensure a transit stop is located within ¼ mile of 80% of all residential units within the node.
- Locate pedestrian amenities, including lighting, benches, bike racks, and trash receptacles throughout the node, with a higher concentration in heavily utilized public areas.
- Incorporate pedestrian scaled maps within the node to highlight pedestrian routes, attractions (such as shopping), and amenities (such as public restrooms) found throughout the node.



*Pedestrian scaled signage is appropriate at key pedestrian locations, such as a transit stop*

## Streets and Vehicular Spaces

Vehicles will continue to be a mode of transportation, even as walkability and mass transit options are promoted and utilized. The design principles associated with streets and vehicular spaces are intended to ensure that the relationship between cars and people are considered in all phases of the planning and design process so they can co-exist in harmony.

- Incorporate traffic calming measures to enhance safety and control traffic speeds, as identified in Section 2.0 of the Study.
- Site parking areas behind buildings to ensure they are not a dominant feature of the streetscape. No



parking lots should have frontage on Route 96. Central courtyard parking in nodal development areas with multiple commercial or mixed use buildings may be appropriate.

- Maintain 20% of all surface parking lots unpaved to allow for greenery and plantings.
- Access from Route 96 should be limited to two new locations within each node. Primary circulation for the nodes should occur within the node, not along Route 96.



*On-street parking, as in the Hamlet of Marion, provides a visual cue to slow traffic and may be appropriate in the Hamlet of Jacksonville*

### 3.5 Revisions to Regulatory Language

The recommendations from the Route 96 Corridor Management Study will be implemented through continuing intermunicipal cooperation, and municipal review and consideration of revision to local regulations to foster the type of development identified in the Nodal Development Scenario. The following recommendations are intended to assist each of the involved communities in making changes to local regulations to promote the Nodal Development Scenario.

The Town of Ulysses and Town of Ithaca are currently involved in processes to update their Comprehensive Plans. Once communities have adopted Comprehensive Plans, the next step is often to update their zoning regulations to ensure consistency with the Future Land Use Plan. The timing of this Study will help to ensure that recommendations associated with promoting the Nodal Development Scenario can also be integrated into zoning updates. Efforts should also be made to ensure that the Comprehensive Plans for the Towns are consistent and support the vision of the Corridor Study.

Revisions to any regulatory language must take into consideration two distinct development patterns, that which will happen within the nodes and that which will happen along the corridor outside of the nodes.

### 3.5.1. Regulations Outside of Nodes

Land uses along the Route 96 corridor, outside of the nodes, retain a rural character. In the Town of Ulysses land uses range from commercial to single-family residential, as well as a significant amount of farmland and natural open space. The Town of Ithaca has a slightly more suburban character with a greater amount of development including single- and multi-family residential, institutional uses, offices, industrial operations, and commercial development. However, open space and scenic views are also predominant characteristics within the Town of Ithaca. The City of Ithaca is much denser with a more urban development pattern including smaller lots and fewer vacant and naturalized parcels directly adjacent to the corridor.

In order to focus future projected development into the nodal areas and allow development that does not negatively impact the character of the corridor outside of the nodes, the introduction of language into existing zoning codes is needed to address the corridor as a whole. These regulatory provisions would seek to limit the density of development on the corridor, outside of nodes, in an effort to protect the existing rural character and focus higher densities of development within the nodal centers. In addition to monitoring densities, regulatory language should also focus on the quality and site design of each individual project, which could be accomplished through the adoption of design standards/guidelines.

One option for each of the communities would be to designate the Route 96 corridor as a specialized zoning overlay district within the Zoning Codes and Zoning Maps for each of the municipalities. Because the adoption of a comprehensive zoning designation that crosses municipal boundaries may be difficult to implement, each of the municipalities may alternatively agree to incorporate regulations that achieve the goals of the Nodal Development Scenario, but do so in a manner that is consistent and complementary within their existing regulatory framework. Regulatory language should address the following:

#### Intent

The intent for any zoning regulations impacting Route 96 within the study area must be to support the goal for the majority of future development to occur within the nodal areas. While the regulations should allow for a range of land uses outside of the nodes, they will need to also ensure the open space, views, natural areas, and undeveloped parcels are preserved. The location, site placement, building design, and use should be regulated to create a low concentration of new development that simultaneously protects the rural setting and ensures the efficiency of Route 96 as a transportation corridor.

#### Permitted Uses

The specific permitted uses allowed along the corridor will be determined by each of the individual communities. Recommended permitted uses could include:

- Agricultural operations,
- Other rural enterprises which complement agricultural operations;
- Parks and open space uses,
- Institutional uses,
- Residential uses, and
- Public buildings.

## Design Guidelines

In order to promote the low density development desired outside of the nodes, the following dimensional parameters are recommended for municipal consideration when updating zoning language:

Minimum Lot Size Range:	3 – 10 acres
Maximum Lot Coverage Range:	5 - 10 percent
Maximum First Floor Area Range:	20,000 – 35,000 square feet
Front Yard Setback (min) Range:	50 - 75 feet (to create green space strip along corridor)

In addition to the dimensional requirements noted above, the design principles outlined in Section 3.3 of this Plan could be incorporated as they address other important design issues such as parking, access density, and architectural guidelines.

## Sustainable Design

Sustainable design is defined as the art of designing the built environment to comply with overarching principles of economic, social, and ecological sustainability. Sustainable design is the key objective and purpose of the Nodal Development Scenario, but the principles of sustainable design should also be applied to development outside of the nodes.

A number of the common principles of sustainable design are highlighted below:

- Low-impact materials, including those that are non-toxic, sustainably produced, or recycled materials.
- Energy efficient products, such as heating and cooling systems.
- Alternative energy sources, such as solar hot water).
- Use of on-site power generation, such as solar technology or wind power.
- Rainwater harvesting and rainwater gardens.
- Land-banking parking lots.
- Permeable materials for traditionally impermeable site areas.
- On-site waste management, such as green roofs that filter and control stormwater runoff.
- Landscaping to shade buildings from direct sun and wind protection.
- On-site composting.
- Local material usage to avoid transportation-related energy use.

## Other Considerations

New York State Department of Environmental Conservation requires that municipalities receive a copy of a Storm Water Pollution Prevention Plan (SWPPP) prior to approval of any site development disturbing more than one acre. This requirement, for all development along the corridor, will ensure that the quality and quantity of water is protected.

“Dark Sky” compliant lighting fixtures should be required for all future projects on the corridor.

### 3.5.2. Regulations for Nodal Areas

The Village of Trumansburg is an established node within immediate proximity to the study area which exemplifies the concentration of development that is desired within the Cayuga Medical Center and Jacksonville Hamlet nodes. The style and exact layout of the proposed nodes will depend on funding, developer interest, and community vision for achieving the overall objectives.

Regulations developed for the nodal areas should focus on reducing transportation impacts, promoting a range of complementary uses, creating a cohesive pedestrian network, and enhancing the aesthetic and physical quality of the nodes. In order to accomplish this, each of the involved communities should consider creating a Mixed Use Zoning District that incorporates design guidelines and principles to achieve the overarching vision. The boundaries of the Zoning District should be carefully considered by each of the municipalities but should include a maximum of ½ mile from the center point of each of the nodes as discussed within this Study.

Regulatory language for a Mixed Use Zoning District could include the following general requirements:

#### Intent

The intent of a Mixed Use (MU) Zoning District is to support the development of a mix of complementary uses. The MU District is intended to promote and foster a medium to high density node of activity that encompasses a variety of uses, including residential, commercial, office, institutional, and open space. The design and layout of the nodes should create clusters of activity and efficient transportation routes, for a variety of transportation types, which enhance the public realm and safety of users.

#### Permitted Uses

The specific permitted uses allowed within each node will be determined by individual communities. It is recommended that, at a minimum, the following types of uses be promoted within the nodes:

- Retail,
- Service,
- Office,
- Institutional,
- Single-Family Residential,
- Multi-Family Residential (townhomes, duplexes, condos, apartments),
- Mixed-Use Buildings,
- Open Space and Parks, and
- Public and Semi-Public Uses.

Other uses may be permitted, or approved by Special Use Permit, as deemed appropriate by the municipalities as they undertake zoning updates. Other uses to be considered may include light industrial, medical services, gas stations, or small farm operations.

## Design Guidelines

In order to promote the development density desired within the nodes, the following dimensional parameters are recommended for municipal consideration when updating zoning language:

<i>Minimum/Maximum Lot Size:</i>	Determined on case-by-case basis. Goal is to achieve development consistent with the desired scale for the nodal area.
<i>Minimum Lot Coverage:</i>	Determined on a case-by-case basis based on the existing pattern of development. Recommended range between 35% to 55%.
<i>Maximum Lot Coverage:</i>	Maximum lot coverage for commercial uses recommended between 60% and 80%. Maximum lot coverage for residential uses will vary depending on types of units.
<i>Front Yard Setback (min):</i>	Determined on a case-by-case basis based on the existing pattern of development. Goal is to achieve a zero or nominal setback to create strong streetscape presence.
<i>Front Yard Setback (max):</i>	Range of 10- 15 feet.
<i>Rear Yard Setbacks:</i>	Determined on a case-by-case basis based on the existing pattern of development.
<i>Side Yard Setbacks:</i>	Determined on a case-by-case basis based on the existing pattern of development.

In addition to the dimensional requirements noted above, the design principles outlined in Section 3.4 of this Study should be incorporated as they address other important design issues such as parking, building placement, landscaping, and architectural guidelines.

The dimensional requirements lend themselves to creating a human-scaled development pattern and seek to create a substantial architectural presence in mixed-use, commercial, and residential areas. Minimal front setback requirements will result in a strong street edge along both Route 96 and internal roadways, helping to slow traffic and create a pedestrian friendly environment.

## Other Considerations

Specific guidelines for large-scale residential developments, greater than 10-units, should also be prepared and include the requirement for the developer to dedicate at least 20% of the total site area to community / public open space.

Each of the municipalities should develop a special set of parking requirements specific to the Mixed Use Zoning District. Since the nodal development pattern is characterized by a mix of uses within close proximity, it is presumed that users will park and visit more than one destination and nodal residents

will visit multiple businesses within the node by foot or bike. Standard parking requirements for “suburban” development patterns are not appropriate in a higher density, mixed-use nodal scenario. A shared parking ordinance is an option that would allow for parking reductions in mixed-use areas based on a series of assumptions about different usage and peak usage hours for different land use types.

### Incentives

A series of development incentives may also be considered and utilized by each of the Towns in order to make the type of development sought in the nodes more desirable to prospective developers. Developer incentives may include, but are not limited to:

- Density increases for targeted development types, such as moderate-income or energy efficient housing;
- Reduced parking requirements;
- Reduced building permit fees;
- Tax incentives; or
- Financing incentives.



## 4.0 CONCLUSION

The Route 96 Corridor Management Study was prepared to help assess and analyze the impacts of a Trend Development Scenario versus a Nodal Development Scenario on the Route 96 corridor from the northern edge of the Town of Ulysses south to the intersection of Route 13 in the City of Ithaca. The Study was approached from both a transportation and overall quality-of-life perspective. The same population projections (mid- and high-range) for the corridor were applied to both scenarios.

The Trend Development Scenario assumed that development would continue to occur along the corridor as has occurred in the past, resulting in a majority of development along the road frontage. The Nodal Development Scenario focused 75% of projected future development over the next twenty years within three nodes on the corridor – the established Village of Trumansburg, Jacksonville Hamlet in the Town of Ulysses, and the Cayuga Medical Center in the Town of Ithaca. Although not an identified nodal area on West Hill, the City of Ithaca is expected to absorb other future growth over the next twenty years that is beyond the projections for the West Hill travel shed.

Under the Nodal Development Scenario, the majority of undeveloped land along the corridor is able to be retained, maintaining the rural character and agricultural operations which define this corridor. Residential densities within the nodes were increased to 2 to 5 dwelling units per acre, with the potential for greater densities. The increased residential densities are consistent with the general planning goals for the region of reducing the overall amount of developed land, maintaining existing agricultural operations, preserving viewsheds and open space, and protecting natural resources.

The results of the exercises undertaken as part of the Route 96 Corridor Management Study indicate that a Nodal Development Scenario would have a positive impact on the corridor, from both a traffic and quality-of-life perspective. The Nodal Development Scenario allows for the general character of each community to be preserved. It improves traffic flow and speeds, creates additional opportunities for pedestrians and bicyclists, improves access to goods and services for a greater number of people, and has an overall positive impact of the day-to-day quality-of-life for the area's residents and visitors. The Nodal Development Scenario addresses the key concerns and issues, as well as the primary goals of residents and businesses, as indicated through a residential community survey, focus group sessions, and at public meetings.

The recommendations provided in Technical Report #3 are intended to be a starting block for future efforts to be undertaken by the intermunicipal partners and each municipality to ensure the Nodal Development Scenario becomes a reality over the next 10-20 years and beyond. Design principles and regulatory language included in the Study should serve as a beginning point for revisions to local codes and regulatory documents. The conceptual plans included within the Study present one potential depiction of how the nodes could develop over time to accommodate future projected growth. They also show how the recommended design principles could be integrated into a nodal plan. Each concept seeks to tie together various aspects of the design that are essential for creating a sense of place and community.

Ultimately, the implementation of the Nodal Development Scenario will require close and on-going collaboration with other interested and involved parties, including Tompkins County, TCAT, NYSDOT, and most importantly, with each other.

## 5.0 APPENDIX

The Appendix includes Project Sheets for each of the study area intersections identified within the Study.

# **Route 96 Corridor Management Study**

## **Technical Report #4: Intermunicipal Implementation Strategy**

### **1.0 INTRODUCTION**

#### **1.1 Project Background**

The Route 96 Corridor Management Study evaluates the traffic impacts associated with development along this transportation corridor from the southern boundary of the Village of Trumansburg to the junction of NYS Routes 96 and 13 (Fulton Street) and provides recommendations and mitigation strategies for these impacts. The Study quantifies existing and projected traffic and levels of service and evaluates how a nodal development pattern with mixed uses, enhanced transit service, access management, and additional transportation system improvements, including bike and pedestrian facilities, could mitigate the impacts of this traffic. The Study examines the option of promoting development nodes in the vicinities of Cayuga Medical Center and the Hamlet of Jacksonville as well as considers the impacts of anticipated development in the City of Ithaca and Village of Trumansburg, as an alternative to a sprawling suburban and rural development pattern. This plan will define the extent of nodal development and identify specific access and corridor management improvements that could be made to mitigate traffic impacts. Key considerations are multi-modal opportunities in the corridor and protecting the livability of impacted areas. The Study recommends specific land use regulatory changes and transportation system improvements that would have the effect of reducing the traffic impacts of future development in the corridor.

#### **1.2 Project Purpose**

The purpose of the Route 96 Corridor Management Study is to help the Town of Ulysses, Town of Ithaca, City of Ithaca, Tompkins County, Ithaca-Tompkins County Transportation Council (ITCTC), and Tompkins Consolidated Area Transit (TCAT) define an appropriate approach to manage anticipated growth along the Route 96 corridor from the southern boundary of the Village of Trumansburg to the intersection of Route 96 and Route 13 in the City of Ithaca.

This study will serve as a guide to define a preferred development pattern for the corridor that is consistent with the goals and vision for each of the involved communities and entities. It will recommend strategies to reduce anticipated traffic-related impacts caused by new development, as well as increased through traffic. A critical objective of this study is that findings and recommendations will assist the Town of Ulysses, Town of Ithaca and City of Ithaca in their current comprehensive plan updates.

Arguably, one of the most important outcomes of the Route 96 Corridor Management Study is to succeed in developing an intermunicipal plan of action that supports the individual goals of each community/organization involved in the study and achieves broader regional transportation, housing, and land use goals.

### **2.0 TECHNICAL REPORT #4: INTERMUNICIPAL IMPLEMENTATION STRATEGY**

The Route 96 Corridor Management Study Technical Report #4 will draw from Technical Reports #1-3 to develop an intermunicipal strategy for mitigating traffic by promoting development in a nodal pattern along the Route 96 corridor. The first three reports are summarized in Appendix A of this document and full text is available on the Tompkins County Planning Department website at [http://www.tompkins-co.org/planning/transportation\\_choices/Route96Ifno.htm](http://www.tompkins-co.org/planning/transportation_choices/Route96Ifno.htm).

A brief description of Technical Reports #1-3 follows: Report #1 presents the existing conditions on the Route 96 Corridor, including traffic conditions, physical characteristics of the road and surrounding land, and zoning and land uses. Technical Report #2 provides the transportation analysis portion of the study as three components: traffic projections, traffic impact analysis, and opportunities and constraints analysis. Technical Report #3 offers a series of recommendations for transportation infrastructure, land

use, and quality of life changes/improvements that are based both on study analysis and resident and stakeholder input.

Technical Report #4 will develop a two-pronged approach for accomplishing the recommendations of the Study. First, it will establish consensus among municipal and agency partners about the methodology for developing in a nodal pattern across municipal boundaries, including developing design guidelines and specific regulatory recommendations. Next, it will present a list of improvement projects that can be achieved through collaboration between municipalities and NYSDOT. Ultimately, the intermunicipal implementation strategy will serve as a planning tool for municipal comprehensive planning efforts and agency long-range planning.

## **2.1 What is Nodal Development?**

A node, as used in the Tompkins County Comprehensive Plan, refers to a relatively dense concentration of mixed-use development. Nodes include, and the concept is derived from, the traditional villages in the county as well as areas with infrastructure and an existing base of housing, services and/or employment that may function as a node or support development of a node in the future. It is intended that nodes provide employment, a mix of types of residences, and commercial and community services in a walkable community that can be connected to larger employment and service centers by public transit.

In order to keep a node walkable it should encompass roughly a ½-mile radius from the commercial core to the edge, with the densest residential development within 1/4 mile of a transit stop. (Ideally there should be a distinct rural/urban edge to the node.) This means a total land area of approximately 500 acres. Studies have indicated that a population of about 2,000 to 2,500 is required to support the most basic neighborhood-scale commercial services. If half of the gross acreage, taking out land for streets, parks, public and commercial buildings, etc., is devoted to residential development and the average household size is estimated to be 2.5 persons, that requires a density of at least four to five units per acre. Of course greater densities will make it possible to provide a greater range of services (and make these services more economically viable) thus reducing further the need for vehicular trips. A well-planned node could easily accommodate a population in excess of 6,000 and still maintain the walkability standards. An average density of 5-10 units/acre is recommended with single-family development at the lower end of the range and multi-family development in the 10-15 unit/acre range. Higher densities also make it more likely that a mix of incomes can be accommodated in the residential households.

Over the long run nodes should seek to establish a balance between residential development and employment. Assuming that half of the estimated 500 acre-sized node is dedicated to residential development, then 250 acres would be supporting at least 5-10 housing units/acre. If each of these housing units had, on average, 1.5 working age adults this might mean an employment base of about 1,800 to 3,600 persons. Clearly this would be more employment than what is needed to provide neighborhood and community services and could result in demand for additional land for employment. Nodes are not intended to support regional commercial development, such as malls and large shopping centers, that would generate additional vehicular traffic from outside the node, but may tap into the market provided by non-resident employees within the node and commuters who might be served by park and rides within the node.

A node should be distinguished from an urban center or a residential hamlet. Urban centers are likely to be much larger in population and geographic area than what is found in a village or node, and may consist of major employment and commercial centers, and a number of neighborhoods that may function much like nodes themselves. Hamlets are often smaller in scale, more residential in nature and do not have the infrastructure to support the level of development and population necessary to provide a range of local neighborhood or community services.

The Tompkins County Comprehensive Plan supports additional development in the City of Ithaca, the urban center of the County, and recognizes that additional development may occur in hamlets throughout the county. Outside of the urban center, however, development in villages and potential new nodes centered around existing employment centers offers the best opportunity to reinforce and establish

walkable communities that will reduce vehicular trips, energy use and greenhouse gas emissions while enhancing the quality of life for residents.

## **2.2 Local Plans and Studies that Support the Concept of Nodal Development**

Several local planning efforts and municipal studies acknowledge and identify nodal development as an effective growth pattern for Tompkins County that can help advance a number of local social, economic, and environmental goals. Such plans/studies include:

- Tompkins County Comprehensive Plan (2004)
- Town of Ulysses Comprehensive Plan (anticipated 2009)
- Town of Ithaca 1993 Comprehensive Plan (Update underway, anticipated completion 2010)
- Route 13/366 Corridor Study – Town of Dryden (2008)
- Tompkins County Housing Strategy (2007)
- Cornell University – Workforce Housing and Transportation Initiatives (2008)
- Town of Ithaca Transportation Plan (2007)
- Ithaca-Tompkins County Transportation Council Long Range Transportation Plan (2009)

A summary of each of these plans/studies is provided in Appendix B. The City of Ithaca has also begun a process to develop an update to its 1971 Comprehensive Plan (anticipated 2011).

## **2.3 Benefits of Implementing Route 96 Study Recommendations**

In order for the preferred Nodal Development scenario to be implemented within the Study area, each of the individual communities will need to pledge to promote this pattern of development. There are numerous benefits of this development pattern that accrue to each of the partnering municipalities and organizations, assuming full support and implementation of the Route 96 Study recommendations. Some of study's benefits will be felt corridor-wide, while others will positively impact specific municipalities or involved organizations. A few examples of these benefits are:

### Corridorwide

- Potential for housing and job co-location
- New neighborhood-oriented and affordable housing – a desirable housing niche that is difficult to find
- Opportunities for a multi-modal transportation system that offers people a choice - increased densities in nodes offer basis for increased transit service with more options (ex. express, commuter trips) as well as improved bicycle and pedestrian links throughout corridor
- New services and conveniences supported by nodes will benefit current and future residents
- Strong foundation is established for ongoing intermunicipal coordination and cooperation
- Intermunicipal study presents a compelling case to NYSDOT to fund infrastructure improvements

### Town of Ulysses

- Infrastructure and services will be more viable with more concentration of growth in Hamlet
- Cherished rural character of Town is preserved
- Walkable, bikeable neighborhoods will be weaved into the Hamlet and revitalize an historic area

### Town of Ithaca

- Safety strategies are identified for vehicles, pedestrians, and bikes
- Walkable and bikeable neighborhoods will be introduced to a new area in the Town at the Cayuga Medical Center and create a sense of place
- Agricultural and natural areas outside of the corridor can more readily be preserved

### City of Ithaca

- The rate of increase in growth of traffic on the Route 96 corridor and through the City will be reduced, thereby maintaining quality of life for current residents

### TCAT

- Efficiencies will be achieved through increased ridership in the densely-populated nodal areas

## **2.4 Density Goals for the Route 96 Corridor**

The overall goal for the Route 96 corridor is to accommodate the majority of projected growth in nodes, while mitigating the impact that this growth will have on the transportation system and on corridor livability. The following average ratios propose how and where new housing could be allocated.

### In Nodes

Jacksonville: 2-4 units/acre

Cayuga Medical Center: 5-10 units/acre

Trumansburg: 4-8 units/acre

### Outside Nodes

Cliff Street, City of Ithaca: Maintain existing density

Town of Ulysses: 1 unit/5 acres, with a minimum 300' frontage requirement

Town of Ithaca: Maintain existing density on Route 96 and evaluate possibility of downzoning other areas

## **2.5 Municipal Zoning Regulation**

Land use regulations and design guidelines are needed to accomplish the preferred pattern of growth. The following can provide a framework for Nodal Development zoning and design principles.

### **2.5.1 Route 96 Corridor Zoning and Design Guidelines**

To implement the nodal development vision for the Route 96 corridor, new municipal zoning regulation is needed.

The preferred development pattern for the corridor consists of five distinct character areas:

1. **Jacksonville Mixed Use Hamlet Center** – This district marks the area within approximately ½ mile of Jacksonville Road/Route 96 intersection - from just south of the intersection of Cold Springs Road/Route 96 at the north to just beyond Colegrove Road/Route 96 to the south.
2. **Cayuga Medical Center District** - This district would be the area from just south of Dubois Road on the north to north of Bundy Road on the south along the corridor and the immediate area that is within ½ mile of Harris B. Dates Drive/Route 96 intersection. (for approximate intersection locations see Technical Report #3, pg.8 conceptual rendering)
3. **Cliff Street** – This district includes the portion of Route 96 that begins at the Town of Ithaca/City of Ithaca municipal boundary and extends south to the Cayuga Inlet, consisting primarily of densely developed housing and a few businesses.
- 4,5. **Outside Nodes** – Two districts are proposed for the remaining areas on the corridor that are outside the nodes:
  - Town of Ulysses Corridor District
  - Town of Ithaca Corridor District

Recommended zoning and design guidelines for the five character areas are as follows:

#### **1. Jacksonville Mixed Use Hamlet District**

The Hamlet of Jacksonville is an existing rural, population center that could greatly benefit from a nodal development pattern to reestablish the hamlet as a community hub. Current development within the hamlet consists of a limited variety of uses oriented in close proximity to one another. They are sited on relatively small lots with minimal or zero front yard setbacks from Route 96. Today, two-story buildings are the tallest structures in the hamlet. In order to ensure that new and/or infill development complements the existing character of this distinct area, the Town of Ulysses should

consider slightly expanding the new Hamlet District (amended 2007) to include areas to the east and west of Route 96 that fall within the ½ mile nodal zone.

#### *Purpose*

The purpose of the Mixed Use Hamlet District should be to encourage the development of a small-scaled, mixed use area with an average residential density of 2-4 units/acre and that includes shopping and services that meet the needs of this local community, offers pedestrian access and amenities, and is in keeping with the historic nature of the hamlet. The Mixed Use Hamlet District would regulate location, design, and use of structures and land to create a dense concentration of activity that is pedestrian-friendly.

#### *Permitted Uses and Site Requirements*

The current permitted uses and site requirements set forth in the Hamlet District (2007) designation are supportive of the goals of the Route 96 Corridor Management Study. The full description for the current Hamlet District Zone can be viewed at the Town of Ulysses website at [http://www.ulysses.ny.us/zoning-law\\_10-10-07.pdf](http://www.ulysses.ny.us/zoning-law_10-10-07.pdf), Town of Ulysses Zoning Law, 2007, Article XI – H1-Hamlet District.

#### *Density Standards*

Establishing a density standard is critical to growing a compact, walkable node. Should large lot development occur in the limited area within the ½ mile node center, it will be difficult to impossible to develop at the density needed to support businesses and services. Also, large lot development could preclude the possibility of knitting new and old development into a seamless neighborhood fabric.

The Mixed Use Hamlet District should have an average density of 2-4 housing units/acre, with a minimum density of 2 units/acre. The current lack of sewer infrastructure in the Town of Ulysses limits permitted density at present. However, consideration should be given to the possibility of future sewer alternatives (e.g., smaller-scaled package facility), which could significantly increase density potential. It should also be noted that the existence of municipal water in the hamlet allows for slightly increased densities even now.

#### *Parking and Site Access*

Parking requirements should be amended to prohibit future development from allowing parking in the front or side yards of parcels adjacent to Route 96. In conjunction with minimal setbacks, this strategy creates a pedestrian-friendly, traditional development pattern that is very dense along the corridor. Additionally, the Town of Ulysses should consider adopting a shared parking ordinance to reduce the parking requirements within the hamlet.

To provide better access management on the Route 96 corridor, it is suggested that any new access to Route 96 be submitted for required site plan review. New access points onto Route 96 should be minimized and favor should be given to shared driveways and access from lower volume side roads. Where no road currently exists, developers should be required to 1) begin to construct all or part of an access road as part of their project or 2) provide a cross access easement and a performance bond in order to ensure their participation upon development of the adjacent parcel. Through site plan review, the Town of Ulysses should seek to determine safe distances between access roads (normally a minimum of 300' for intersections on a State Highway).

#### *Other Considerations*

The Town may also consider modifying its Planned Unit Development (PUD) requirements within this district in order to reduce the minimum acreage necessary for a PUD, to as little as 3-5 acres, to encourage developers to prepare development plans consistent with the intent of the district.



The Town of Ulysses might consider adding design guidelines to this district that are in keeping with the scale and character of the existing hamlet. Suggested Nodal Design Standards are described in Technical Report #3 (pgs. 34-39).

## **2. Cayuga Medical Center District**

The Cayuga Medical Center node is already developing, with its primary center at the hospital, and includes PRI and the Fingerlakes School of Massage as well as new housing - Overlook apartments and the proposed Holochuck development. Growth in this area should seek to concentrate additional housing and commercial uses as well as neighborhood amenities densely around the existing collection of uses. To accomplish this, the Town of Ithaca should consider creating either a Mixed-Use (MU) District or utilize its Planned Development Zone. Any new district should include a provision to assure that commercial uses such as retail and services are located in the central core of the node to guarantee walkable access for residents.

### *Purpose*

The purpose of a Mixed-Use (MU) District should be to create a moderately compact zone with a variety of uses including residential, commercial, and institutional. In order to accomplish this, the MU District could regulate the location, design and use of structures, and land to create a cluster of activity and to ensure the safe and efficient movement of vehicles along the corridor.

### *Permitted Uses*

The Town of Ithaca should consider permitting the following uses in this district: retail and service (similar to those identified in the current Town of Ithaca Neighborhood Commercial Zone); office, institutional (hospitals, medical and medical support, museums, assisted living); single, two-family, and multi-family residential; parks and recreational facilities; and possibly gas sales. Specially-permitted uses might include child care and elder care centers; health or fitness related use; clubhouse, lodge or community facility; schools, churches; and fire and emergency medical services.

### *Density Standards and Site Requirements*

Establishing a density standard is critical to producing a compact, walkable node. The MU District should have an average density of 5-10 housing units/acre, with a minimum density of 5 units/acre, and a maximum density of 15 units/acre.

The dimensional requirements for the MU zone should strive for minimal setbacks and cap building heights at 60 feet, or 4 stories.

### *Parking and Site Access*

Parking requirements should prohibit future development from allowing parking in the front or side yards of parcels adjacent to Route 96. This requirement along with a 25 to 40 foot front yard setback will create defined building frontage edge with a minimal green space frontage. Removing parking from side yards allows for reduced side yard setbacks and encourage structures to be closer together, resulting in the moderate density development pattern described in the purpose statement. The Town of Ithaca parking requirements should be reduced within the Cayuga Medical Center node so as to accommodate multiple uses located in close proximity to each other that will have a reduced parking ratio when compared to stand alone uses. As a result, the Town can 1) develop a second set of parking requirements for the node or 2) adopt a shared parking ordinance to take advantage of different uses with complimentary peak hours of operation sharing this support infrastructure.

Direct access from Route 96 should be prohibited for new development within the node, with the key exception of planned access roads depicted and described in Technical Report #3 on pgs. 8-11 (ie. Fire Station Road at southern edge of node and potential northeastern access from Route 96 to housing). Access should be provided from lower volume collector side roads. Collector roads should be laid out in advance and placed on the Official Map so planned development can be accommodated. Where no road currently exists, developers should be required to; 1) begin to construct all or part of

an access road as part of their project or 2) provide a cross access easement and an agreement or performance bond in order to ensure their participation in the construction of the road upon development of the adjacent parcel. The Planning Board should strive to maximize the distance between access roads within the MU District through site plan review.

Sidewalks and pedestrian paths are critical intranodal infrastructure, therefore sidewalks should be required on both sides of Route 96 within the Cayuga Medical Center node, as well as internally within new developments. The development of links to the Black Diamond Trail directly from the node will provide further support to a multi-modal system.

#### *Non-Residential and Multi-Family Architectural Standards*

It is recommended that structures within the MU District have a minimum level of design to create visual interest and minimize negative visual distraction. Facades, rooflines, exterior walls, windows, awnings, and entrances should all be considered for design aesthetic. Building entrances should front Route 96, or the internal road on which they are located, and provide a direct connection to the sidewalk system. Other entrances may be placed to the rear or side of buildings to serve visitors entering from other access points, such as rear parking. Commercial tenants should have separate entrances. Material composition of the façade should be non-reflective, give a sense of proportion, and be pedestrian-friendly. Dumpsters, HVAC, and other machinery should be screened from view. Landscaping, including street trees, should be included in development plans.

The planning of each segment of the node should be done so that overall development fits within the larger planning framework of the Town Comprehensive Plan.

### **3. Cliff Street**

The Cliff Street portion of the Route 96 corridor requires its own zoning consideration, particularly related to site access and redevelopment, that is different from that proposed in the Corridor District and within the nodes. Currently, Cliff Street consists of dense residential development and businesses along the last steep mile of Route 96 entering the City of Ithaca.

#### *Site Requirements and Access*

On the east side, lower reach of Cliff Street, where there is opportunity to gain access via Park Road, existing residences and/or future redeveloped parcels should be permitted to reverse front and rear yards. This would improve quality of life for residences sited immediately adjacent to the corridor, and it would also reduce turning and traffic conflicts by reducing access points in the most congested area of Route 96. All parcels being redeveloped should be required to consolidate access, where possible.

Consideration may also be given to establishing a conservation steep slope zone on portions of select parcels on Cliff Street, to prohibit future dense development of particularly sensitive sites.

### **4 & 5. Outside Nodes – Corridor Districts**

The area outside of the nodes can be described as rural in character in the Town of Ulysses and in the northern portion of the Town of Ithaca, suburban in the Town of Ithaca portion between the Medical Center and City of Ithaca, and densely developed in the City of Ithaca (see Cliff Street above). Currently there are a variety of land uses along the corridor including agricultural, residential, commercial, institutional, light industrial, and office. It is recommended that zoning and regulatory provisions be established outside the nodes to preserve and encourage low-density development. In order to accomplish this, the Towns of Ulysses and Ithaca should consider creating Corridor Districts.

#### *Purpose of Corridor Districts*

The purpose of both of the Corridor Districts is to support development of low density, low-intensity uses that preserve the current character of the corridor within each of the Towns. A Corridor District

would regulate the location, design and use of structures and land to create a low concentration of activity and to ensure the safe and efficient movement of vehicles along the corridor.

- **Town of Ulysses Corridor District**

*Permitted Uses in Ulysses Corridor District*

Agriculture and agriculture support businesses, public buildings, parks and recreation facilities and single-family residential would be appropriate permitted uses in the Ulysses Corridor District. Specially Permitted Uses might include office and multi-family residential in this district. The Draft Town of Ulysses Comprehensive contemplates focusing light industrial uses around Krum's Corners Road.

*Density and Dimensional Requirements for Ulysses Corridor District*

To maintain low density along the corridor outside the node in the Town of Ulysses, development should keep a minimum 90-100' setback from Route 96 with a minimum lot width of 300', as measured 50' from the right of way in the front yard. Maximum building height should be capped at 40' for a habitable structure, though agricultural structures such as silos or grain elevators may be taller in height.

*Parking & Site Access for Town of Ulysses Corridor District*

Front yard parking should be prohibited for all new development on the corridor. Instead, side and rear yard parking should be permitted. Only one driveway or access should be permitted per parcel and shared driveways should be encouraged. Planning review should strive to maximize the distance between driveways on adjacent parcels through site plan review.

*Non-Residential Architectural Standards in Ulysses Corridor District*

It is recommended that structures within the Ulysses Corridor District be constructed to mimic the appearance of building types typically found in rural landscapes. These include but are not limited to farmhouses, barns, stables, and country stores. This is accomplished through the use of building materials, rooflines, and decorative treatments.

- **Town of Ithaca Corridor District**

*Permitted Uses in Town of Ithaca Corridor District*

Agriculture and agriculture support businesses, and low density single and two-family residential should be permitted uses in the northern, rural portion of the Town of Ithaca Corridor District. Institutional, including medical uses; public buildings; parks and recreation facilities; and single and two-family residential should be permitted uses in the southern, suburban portion of the Town of Ithaca Corridor District. Specially Permitted Uses might include office and multi-family residential in the suburban portion of this district.

*Density and Dimensional Requirements for Town of Ithaca Corridor District*

In order to preserve low-suburban densities and the parkway character in the Town of Ithaca Corridor District it is important to focus efforts on the several large, vacant or underutilized parcels, as most parcels along the corridor in this area are already developed. Some of these parcels should be targeted for downzoning to a lower density (currently zoned MDR might be rezoned to LDR) to encourage development to occur within the Cayuga Medical Center node and to establish a defined edge between the node and the surrounding area. The front yard setback for newly developed or redeveloped parcels should, at a minimum, reflect setbacks of adjacent properties. Where possible, a 90' setback should be considered in order to buffer residences from corridor noise and provide adequate space for pedestrian amenities to be built between the road and structures.

*Non-Residential Architectural Standards in Town of Ithaca Corridor District*

New development in the suburban portion of the Corridor District should reflect the current residential and institutional development character of this portion of the corridor in the Town of Ithaca. This could be accomplished through establishing guidelines regarding the use of building materials, rooflines, and decorative treatments.

### *Parking & Site Access for Town of Ithaca Corridor District*

Front yard parking should be prohibited for all new development on the corridor. Instead, side and rear yard parking should be permitted. Only one driveway or access should be permitted per parcel and shared driveways should be encouraged. Planning review should strive to maximize the distance between driveways on adjacent parcels through site plan review.

## **2.6 ROUTE 96 INFRASTRUCTURE IMPROVEMENTS**

### **2.6.1 Route 96 Corridor: Looking to 2028**

Today, the character of the Route 96 corridor in Tompkins County is comprised of rural, suburban, and urban environments. As envisioned, the future Route 96 corridor would retain much of its current character with additional, thoughtful development primarily located in the Village of Trumansburg, Hamlet of Jacksonville, Cayuga Medical Center node and downtown City of Ithaca.

The Village of Trumansburg would continue to be a vibrant village with a slightly greater mix of uses and housing than exists today. Within the study area of Route 96, the broader corridor could be expected to maintain much of its agricultural and scenic views in the Town of Ulysses, low-density housing and institutions in the Town of Ithaca, and dense housing and businesses in the City of Ithaca. The majority of changes along the corridor would be apparent at the two nodes proposed in the Route 96 Corridor Management Study: Cayuga Medical Center and the Hamlet of Jacksonville.

#### **Cayuga Medical Center Node**

It is anticipated that the Cayuga Medical Center node will be a population and employment center in 2028, that includes new mixed use development, with a variety of shopping and service options for residents of more than 300 new housing units. Two new intersections (potentially with roundabouts) will be located at the north and south ends of the node of the corridor, which will service new internal access roads to the neighborhoods. In addition to landscaping and signage, this will notify passersby that they have arrived at the new West Hill node. Along Route 96, sidewalks and landscaping will promote pedestrian and biking opportunities within this new community.

A lively mix of uses will be visible in storefronts, and those wishing to live in this area will be able to select from single-family homes, duplexes, condominiums or apartments. Neighborhoods will have interior open space amenities and will all be located with 1/4 –1/2 mile walk of a transit stop. Biking to and from work in this node will be possible, as bike lanes will be provided on all internal roads as well as Route 96. These bike links and sidewalks will be directly connected to transit stops and linked to the Black Diamond Trail.

The tenants and uses already located in this node – the hospital, PRI, Finger Lakes School of Massage, Overlook housing development and others – will be well integrated within this live-work neighborhood.

#### **Hamlet of Jacksonville**

The Hamlet of Jacksonville will be a reinvigorated, rural hamlet in 2028. The hamlet's historic attributes will be supported by context-sensitive infill and redevelopment projects along the Route 96 corridor. The hamlet will be defined at its entrance and exit points by new gateways with signage– one near the community park at the north and one by Colegrove Road in the Town. Tree-lined sidewalks will border both sides of a narrowed Route 96 corridor, with crosswalks, and bike lanes connecting to transit stops, residences, and businesses, allowing residents to get around the hamlet more easily.

Approximately 125 new housing units will be sited in neighborhood settings off the main corridor that include pedestrian connections to the Town park via a park path as well as to the new business district at the intersection of Jacksonville Road and Route 96. Small businesses will be in residence at this

intersection: food establishments, small grocers, offices, and services will help the hamlet meet everyday needs of residents and provide some local work opportunities.

### **Outside Nodes**

In 2028, the Route 96 corridor outside the nodes will appear much the same as it does today. By managing and minimizing growth outside the nodes, the Town of Ulysses will preserve its rural agricultural character while the Town of Ithaca will maintain its suburban, parkway feel. New development will be thoughtfully planned and built with consolidated access points (ie. shared driveways) and rear or side parking. A defined edge will separate the nodes from the rest of the corridor.

### **2.6.2 Route 96 Study Area Improvements**

Technical Report #3 of the Route 96 Corridor Management Study recommends a number of improvements to be made throughout the corridor. Recommendations are proposed for specific intersections; speed reduction; transit, bike and pedestrian amenities; park and rides; and gateways into the new nodes and City of Ithaca. Many of these improvements require NYSDOT funding or action as lead agency for implementation.

### **2.6.3 Intersections**

Five intersections were selected for a greater level of study and analysis based on their existing and potential future conditions. Project Sheets, showing existing conditions as well as recommended conceptual alternatives, are presented in Appendix C, for each intersection and are posted on the Tompkins County Planning Department website with Technical Report #3. In addition to the graphic depictions of the intersection, each project sheet includes background, intersection concerns, and recommended tools. Project Sheets have been completed for the following intersections:

- Route 96 & Jacksonville Road: recommendations include improvements for bicycles and pedestrians, street amenities, new curbing, recessed/delineated parking, and potential new traffic signal or a roundabout.
- Route 96 & Harris B Dates Drive-West Hill Drive: recommendations include improvements for bicycles and pedestrians, street amenities, new curbing, and potential replacement of the existing traffic signal with a roundabout.
- Route 96 & New Cayuga Medical Center Node intersection: recommendations include improvements for bicycles and pedestrians, street amenities, new curbing, and potential for a new traffic signal or a roundabout.
- Route 96 & Taughannock Boulevard: recommendations include improvements for bicycle and pedestrian crossing and travel and signal phasing/timing improvements.
- Route 96 & Krum's Corners Road: recommendations include replacing existing warning signs with new style, larger signs and removing vegetative obstructions.

Intersection improvements would be the coordinated responsibility of municipalities and NYSDOT, other than the improvements suggested for Krum's Corners/Route 96 intersection. The Tompkins County Public Works Department will complete this action in 2009.

### **2.6.4 Speed Reduction in Nodes**

Residents living on Route 96 who completed a community survey identified speeding to be the top concern impacting quality of life. The Nodal Development scenario offers an opportunity to reduce speeds within the nodes, which could greatly improve the livability of the proposed population centers as well as adjacent areas.

The creation of nodes along Route 96 results in village-type activity centers within which Route 96 should be treated more like a neighborhood street (similar to Route 96 treatments within the Village of Trumansburg). In a village, speeds are controlled through careful design of streets and the streetscape. Narrow street widths, pedestrian crossings, and special design treatments help induce drivers to stay within the speed limits. At slower speeds, the frequency of vehicular accidents declines, and those that do occur are less severe.

The following traffic calming tools are recommended for reducing vehicular speeds. These would primarily be the responsibility of NYSDOT in coordination with local municipalities, except for design and installation of gateway treatments and sidewalks, which would be the responsibility of the municipalities, but which might qualify for State or Federal funding programs.

### **Cayuga Medical Center Node**

Install curbing within the nodal zone along with narrowed travel lanes, proposed walkways, and streetscape improvements to provide visual cues to motorists to reduce travel speeds

- Petition NYSDOT to reduce the speed limit from 45 mph to 40 mph throughout the node (and possibly all the way from the City line to the new northerly node gateway.) Install gateway treatments at the north and south ends of the node at the new northerly driveway (north of Hayts Road) and at the new southerly driveway (near the Finger Lakes School of Massage and the West Hill Ithaca Fire Department station).

### **Hamlet of Jacksonville**

The main objective of providing traffic calming in the Hamlet of Jacksonville node is to encourage motorists to travel at the posted speed limit of 40 mph. The wide expanse of pavement currently causes motorists to travel too fast through this area.

- Install curbing throughout the node with narrowed travel lanes to provide visual cues to motorists to reduce travel speeds
- Delineate travel lanes at approximately 14 feet and either narrow the pavement accordingly or delineate recessed on-street parking areas with the excess pavement width.
- Provide sidewalks along both sides of Route 96 throughout the node.
- Provide curb-bump outs wherever possible to shorten crossing distances for pedestrians. Delineated pedestrian crosswalks should be provided on all four legs of the Jacksonville Road intersection.
- Delineate pedestrian crossings at the new roadway intersections with Route 96 within the node. Consideration should be given to providing marked crosswalks on Route 96 at these locations. These crosswalks would likely require safety enhancements on Route 96 such as curb bump-outs and/or a raised median treatment.
- Install gateway treatments at the north and south ends of the node.

Speed limits should be reviewed in these areas as development densities increase over time.

## ***2.6.5 Transit Infrastructure and Services***

A successful multi-modal Route 96 will depend heavily on a strong, local transit system being integrally linked with the nodes on the corridor. Transit infrastructure improvements that have been identified through the Route 96 study, include updating existing bus shelters, adding new bus shelters, and creating bus pull off lanes on the corridor.

### **Cayuga Medical Center Node**

#### West side – Southbound

The existing bus stop on Route 96 (on Overlook property) should be enhanced and possibly integrated with a park and ride on the adjacent developable parcel, as a key transit location, servicing people traveling to destinations within the City of Ithaca. Inclusion of bicycle facilities on the bus shelter property might be considered to accommodate the needs of transit users. There may be future need for an additional bus stop at the projected intersection at Fire Station Road.

#### East side – Northbound

A designated, covered bus stop is recommended within the proposed mixed-use commercial center near the intersection of Harris B. Dates Drive and Route 96, which would require relocating the hospital bus stop. The location would allow bus service to reach a significant concentration of people without having

to leave the Route 96 corridor. The bus stop does not need to be a freestanding building but may be incorporated into a commercial or mixed-use structure where transit users arriving at the hospital area will have access to goods and services available.

A bus pull-off area on Route 96 is recommended in order to improve traffic flow along the corridor. The new bus stop would complement the location of the existing transit stop located in the Overlook housing development.

### **Hamlet of Jacksonville**

#### West side – Southbound

The existing bus stop in Jacksonville needs improved amenities such as bike racks and a bench, and should be better connected with the pedestrian network of sidewalks proposed for this node. Additionally, a recessed bus pull off should be provided, as space permits.

#### East side – Northbound

The existing commercial building identified on Route 96 just south of the Jacksonville Road intersection is a recommended location for a covered transit stop. A multi-use building would provide retail establishments, offering additional amenities and services in immediate proximity to transit users as they disembark.

Enhanced and flexible transit service could do much to increase transit use on the corridor, which would in turn, assist in mitigating many of the traffic impacts along the corridor. Many current corridor residents expressed interest in using transit in the resident survey and in public meetings, should it become more accessible to them. Anticipating growth along corridor, it will be critical for municipalities to work with TCAT to determine how enhanced transit services can best be incorporated into the nodes as they develop over time.

Future considerations for transit services should be:

- Route Alignment – As development begins to occur on the corridor, review of current routes, route alignment (particularly in the nodes), and consideration for ending flag pickups on express trips as well as within the node areas.
- Potential for Alternative Service
  1. Express Route - Similar to the Town of Dryden, express service should be considered on the Route 96 corridor to encourage quick, efficient trips to employment.
  2. Vanpool – Expanding vanpool opportunities on this high in-commuter route may help to alleviate traffic concerns during the highest peak (AM in-commute) on the corridor.
- Pilot Projects – The possibility for small, flexible service to complement fixed route service would be a future consideration on the corridor.

TCAT's Transit Development Plan, which is currently in development, proposes enhanced service to the hospital and Trumansburg, which would greatly improve service on the corridor and support the goals of nodal development.

It should be noted that short-term projections for this study would not likely result in immediate or significant changes in service, as current routes are often underutilized and have the ability to accommodate a larger number of riders. To make longer-term transit options feasible, municipalities along the Route 96 corridor may need to directly support TCAT to maintain or enhance vital services. Tompkins County and each of the involved municipalities will continue to coordinate with TCAT as future development occurs to help determine whether any changes to the existing public transportation system are warranted.



### **2.7.6 Bicycle and Pedestrian Amenities**

Improved circulation and safe pedestrian and bicycle routes along the corridor and within the nodes will be priorities for implementing the recommendations of this study. Efforts should be made to ensure that all portions of the corridor outside of the City of Ithaca (which currently has sidewalks) and nodes (where separate facilities are proposed) have shoulders with a minimum width of 6-8', in order to allow for the safe movement and circulation of pedestrians and bicyclists. Pedestrian sidewalks along Route 96 within the Town of Ithaca portion of corridor have already been identified in the needs assessment completed for the Town of Ithaca Transportation Plan (2007).

#### **Cayuga Medical Center Node**

There are no sidewalks along Route 96 within the node and actual vehicular speeds often exceed the 45 mph posting during off-peak times. The following pedestrian and bicycle improvements are recommended within this node:

1. Install sidewalks, pathways and/or trails along both sides of Route 96;
2. Incorporate internal node connections from sidewalks and bike lanes directly to the Black Diamond Trail on the east and south).
3. Incorporate sidewalks into all new developments within the node; and
4. Provide a 5' designated bike lane along both sides of the road within the nodal boundary areas.
5. Complete the planned trail on the west side of Route 96 that will connect this portion of the node south across Bundy Road to other Town developments and ultimately to the City of Ithaca sidewalk system.

#### **Hamlet of Jacksonville**

The following pedestrian and bicycle improvements are recommended within this node:

1. Provide a curbed roadway section throughout the Hamlet of Jacksonville;
2. Revise the geometry of Route 96 within the node so there are two 11' travel lanes. The remaining pavement width can either be used for an 8' on-street parking lane or can be eliminated and used to provide a bike lane, sidewalk, and buffer area;
3. Install curb-bump outs to narrow crossing widths and to delineate recessed on-street parking areas;
4. Install sidewalks along both sides of Route 96 throughout the Hamlet;
5. Install crosswalks for all legs of the Route 96 Jacksonville Road intersection as well as for crossing of Route 96 at new intersecting roadways within the node; and
6. Provide a 5' designated bike lane along both sides of Route 96 within the nodal boundary areas.

### **2.7.7 Black Diamond Trail Linkage**

Creating linkages within each node to the Black Diamond Trail to provide a non-vehicular connection between nodes and outlying areas is important for developing a truly multi-modal transportation system. Multi-use trails within nodal areas should connect these neighborhoods to the Black Diamond Trail. Proposed links to the Black Diamond Trail would be:

#### **City of Ithaca**

This is a critical link for the residents in the City, as bicycle travel on the Cliff Street portion of Route 96 is dangerous with the few inches of shoulder available at the edge of the vehicular travel lanes. A link at or near the proposed gateway entrance to the City of Ithaca, with appropriate signage and a crosswalk treatment, could help facilitate travel between Town of Ithaca to downtown City of Ithaca where it will connect with the existing and proposed sections of the Cayuga Waterfront Trail.

#### **Cayuga Medical Center Node**

The link to the Black Diamond Trail from this node would likely occur from the hospital grounds or PRI, and the Holochuck Homes development may also tie into the trail at the south end of the node. Directional signage starting at internal neighborhood trails/bikeways in the node to the Black Diamond Trail will be needed.

### **Hamlet of Jacksonville**

A link to the Black Diamond Trail from the hamlet will require a road link along Kraft Road. Signage from the node connector should be continued along any public road to clearly direct users. Implementation of these trail linkages should coincide with new development in the nodes.

### **2.6.8 Gateway Treatments**

Gateway treatments will locate and identify the new Cayuga Medical Center node, the Hamlet of Jacksonville, as well as the entrance to the City of Ithaca along the Route 96 Corridor.

#### **City of Ithaca**

- Gateway treatment on Route 96 just north of the City line consisting of signage and landscaping. This could be co-located with an access link to the Black Diamond Trail.
- Landscaped median treatment may also be considered in the wider section of Route 96 just north of the City line.

#### **Cayuga Medical Center Node**

- Landscaped signs that announces the entrances to the node from the north and south.
- Raised, landscaped median at the north end of the node on Route 96 at the intersection of the new internal feeder road.
- Roundabout at the new southerly intersection of Route 96 at Fire Station Road.

#### **Hamlet of Jacksonville**

- Landscaped sign that announces the entrance to the node at the north end by the Town park and at the south end near Colegrove Road,
- Raised, landscaped median at the north and south ends of the node on Route 96.

### **2.6.9 Route 96 Priority Infrastructure Projects**

The comprehensive infrastructure improvement project list identified in this Technical Report #4 is expected to be achieved over time as the corridor develops. Municipalities working together can utilize the study as a whole, with a focus on the project list, to make a stronger case to NYSDOT that any future scheduled State maintenance or reconstruction in the corridor include local priorities and that mid- to long-term projects from this Technical Report be incorporated into NYSDOT's 7-year program plan.

The infrastructure projects outlined are important and needed to attain the 2028 vision for the corridor. However, as the Route 96 Corridor will likely develop incrementally, the select shortlist of projects below are priorities for immediate, coordinated implementation.

#### **City of Ithaca**

- Design and install gateway treatment to reinforce City entrance
- Add pedestrian crosswalks at Vinegar Hill and Brookfield Road

#### **Cayuga Medical Center**

- Design and begin development of an internal pedestrian/bikeway that is parallel to Route 96 and connects to City of Ithaca sidewalk system and Black Diamond Trail
- Identify locations of proposed intersections and access roads and add to Official Map
- Design and install gateway treatments to denote new node being developed on corridor
- Add sidewalks along Route 96 as opportunities arise

#### **Hamlet of Jacksonville**

- Identify and apply for small area improvement/Main Street grant to begin building pedestrian amenities, including sidewalks, lighting, and crosswalks
- Design and install gateway treatments to reinforce sense of place on corridor

## **2.7 NODAL DEVELOPMENT TOOLS**

A series of regulatory tools is presented below to assist individual municipal implementation of nodal growth and traffic mitigation along Route 96. Several of these tools support an intermunicipal approach to Route 96 Corridor planning. In addition, Technical Report #3 (pgs.34-39) provides corridor design principles and techniques that support the study's transportation and land use objectives.

### ***2.7.1 Small Area Plans***

A refined area plan should be completed for each of the nodes to help identify specific design opportunities and constraints and to consider how design principles could be realistically incorporated in the overall design and development of these areas. Moreover, these plans should result in changes to each Town's Official Map to identify future roads and easements required for implementation of the nodes.

### ***2.7.2 Route 96 Overlay District***

In both the Towns of Ulysses and Ithaca a Route 96 Overlay District is recommended to manage development and access to the corridor and allow for a change of density within the district without changing the underlying zoning. An overlay district could address how properties are redeveloped and could encourage that parcels be reassembled when redevelopment occurs. Within the overlay district, consolidation of access could be promoted in the form of shared driveway requirements and/or allowed increase in density in exchange for reduced number of driveways. Parking could be mandated to be in rear or side yards within the overlay district.

### ***2.7.3 Transportation Improvement District***

A Transportation Improvement District is a funding tool that levies an assessment on property owners within a designated distance from the "benefit area" to pay for needed transportation infrastructure improvements such as intersection upgrades, bus stops, etc. This mechanism would have to be established and evolve in tandem with future developments, and would likely be feasible only in the Cayuga Medical Center node.

### ***2.7.4 Incentive Zoning***

The following list of six incentive zoning options is presented to make the type of development sought in the nodes more desirable to prospective developers. Examples of developer incentives may include:

- Density increases for targeted housing types, such as moderate-income or energy-efficient
- Density increases for public amenities – trail links and parks
- Reduced parking requirements
- Reduced building permit fees
- Tax abatements, PILOTS (payments in lieu of taxes)
- Financing incentives – financial assistance for preferred land uses, tax increment financing

### ***2.7.5 Purchase of Development Rights (PDR)***

Purchase of Development Rights (PDR) is a land protection tool that pays landowners to protect their land from development. Agricultural parcels in the Town of Ithaca and Town of Ulysses that fall within the identified Northwest Agricultural Resource Focus Area and/or in the designated area of agricultural importance in the Town of Ithaca could be targeted for purchase of development rights on the Route 96 Corridor. These municipalities, in an effort to preserve active agricultural, rural character, and scenic viewsheds, may work cooperatively with the County and New York State to buy development rights and create conservation easements in order to limit development in these areas and to restrain growth outside the nodes. The County or municipalities may also want to consider this tool to protect sensitive natural areas within the corridor.

### ***2.7.6 Transfer of Development Rights (TDR)***

A TDR is a regulatory tool designed to facilitate land-use planning to control where development will and will not occur. This approach involves severing the right to develop an area that the public wishes to preserve in low density or open space and transferring those rights to another site where higher than normal density would be tolerated and desirable. In order to work, there must be clear sending and

receiving areas, such as the proposed node in its entirety or specific parcels within the node.

Transfer of development rights is used to protect land by transferring the development rights from one area and giving them to another. Along the Route 96 corridor this would occur by placing a conservation easement on a property in a designated agricultural area while simultaneously permitting an increase in development density (density bonus) within a target area – the identified nodes of Jacksonville, Cayuga Medical Center, or Trumansburg. The costs of purchasing the easements would be recovered from the developers who receive the building bonus.

TDR programs should be investigated and included in the municipal comprehensive planning processes of each municipality that is contemplating using them. Four requirements for using TDR are:

1. A designated protection zone (the sending area)
2. A designated development area (the receiving area)
3. A pool of development rights that are legally severable from the land
4. A process to transfer development rights between properties and monitor the program over time.

The two TDR program types to consider are where landowners sell the development rights to a developer who then uses them in a permitted area or a local government-based TDR bank, where developers who seek higher densities purchase the rights from the government. In the case of the Route 96 nodes, it may be desirable to designate as sending areas those areas directly adjoining the nodes to create a clear rural/urban edge and an open land buffer around the node.

### ***2.7.7 Land Banking***

Land banking properties on the Route 96 corridor would entail developing a strategic land acquisition program to purchase land in each node to achieve specific housing and neighborhood goals identified in municipal comprehensive plans, such as affordable housing or commercial development. This tool may be particularly useful for critical parcels identified within each node. For example, the seven Exxon-Mobil properties in the Hamlet of Jacksonville may be disposed from this company's inventory and made available in the near future.

### ***2.7.8 Planned Unit Development (PUD)***

Planned Unit Development (PUD) could be a useful tool in developing mixed-use nodes that incorporate housing, shopping, offices and personal services within walking distance. PUD allows for flexibility with regard to use, setbacks and minimum lot sizes and allows developers to include these in one development plan. Local municipalities retain design oversight authority for PUD development. The evaluation of PUD as a regulatory tool should consider minimum size thresholds, appropriate allowances for bonus height and density, the types of public benefits that may be provided, and review and approval procedures. The Town of Ithaca already uses this tool in its Planned Development Zone (PDZ).

### ***2.7.9 Park and Ride Partnership***

At least one park and ride in the Cayuga Medical Center node, and potentially a second in the Hamlet of Jacksonville, will be essential in order to support increased transit ridership and to accommodate commuters. The development and maintenance of this infrastructure should be undertaken through a partnership between future developers, municipalities, and TCAT. A developer building in a node may be required to build, fund, or provide land for a park and ride facility. Meanwhile, maintenance would be supplied by the sponsoring municipal entity. TCAT, as the service provider, should work with both developers and municipalities to identify needed services/changes (ie. route, service type, location, etc.).

### ***2.7.10 Affordable Housing***

There is significant need for more affordable<sup>1</sup> housing across Tompkins County and, therefore, any new development plans proposed in the study area should include an affordable component, particularly within the nodes on the corridor. Density increases requested by developers building within nodes should be considered in exchange for increased percentage of affordable units in development proposals.

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<sup>1</sup>Affordable housing refers to housing that costs less than 30% of a household's gross income, as stated in the Tompkins County Affordable Housing Needs Assessment (2006), available on the Tompkins County Planning Department website at <http://www.tompkins-co.org/planning/HNA/countywidehousingneedsassessment.htm>.